



THE NATIONAL CLEARINGHOUSE FOR MENTAL HEALTH INFORMATION

Room 1440  
Do Not Circulate

MAYO CLINIC  
LIBRARY

JUN 6 1974

ROCHESTER, MINN.

VOL. 10 SUPPLEMENT July 1972

PSYCHOPHARMACOLOGY  
ABSTRACTS

x

MAYO CLINIC  
LIBRARY

NATIONAL INSTITUTE OF MENTAL HEALTH

200853

Vol

**PSYCHOPHARMACOLOGY ABSTRACTS** is a publication of the National Clearinghouse for Mental Health Information of the National Institute of Mental Health. It is a specialized information medium designed to assist the Institute in meeting its obligation to foster and support laboratory and clinical research into the nature and causes of mental disorders and methods of treatment and prevention. Specifically, this information service is designed to meet the needs of investigators in the field of psychopharmacology for rapid and comprehensive information about new developments and research results. For information or correspondence with the National Institute of Mental Health concerning *Psychopharmacology Abstracts*, changes of address, or removal of names from the mailing list see the inside back cover page.

#### NOTICE

In order to bring *Psychopharmacology Abstracts* up to currency as quickly as possible, the National Clearinghouse for Mental Health Information has taken the following actions: (1) A Supplement to Volume 10 is being issued containing approximately 2000 citations and (2) beginning with Volume 11, the journal will be issued on a quarterly basis. In this way it is expected that beginning with Issue 4 of Volume 11, abstracts will be announced as they are added to the NCMHI computer files regardless of publication date, making them as current as possible. We regret any inconvenience the time lag has caused our subscribers.

Effective with the first issue of Volume 11, the subscription price will be \$16.90 for domestic mailing and \$21.15 for foreign mailing.



Use of funds for printing this publication approved by the Director of the Office of Management and Budget, September 1, 1970.

# CONTENTS

	Page
ABSTRACTS . . . . .	1
<i>Preclinical Psychopharmacology</i>	
Chemical Synthesis, Isolation and Characterization . . . . .	1
Drug Development (Preclinical Screening) . . . . .	5
Mechanism of Action - Physiological, Biochemical and Pharmacological . . . . .	10
Mechanism of Action - Behavioral . . . . .	147
Toxicology and Side Effects . . . . .	224
Methods Development . . . . .	233
<i>Clinical Psychopharmacology</i>	
Early Clinical Drug Trials . . . . .	241
Drug Trials in Schizophrenia . . . . .	253
Drug Trials in Affective Disorders . . . . .	276
Drug Trials in Neuroses . . . . .	299
Drug Trials in Miscellaneous Diagnostic Groups . . . . .	312
Psychotomimetic Evaluation Studies . . . . .	338
Mechanism of Action - Physiological, Biochemical and Pharmacological . . . . .	343
Mechanism of Action - Behavioral . . . . .	381
Toxicology and Side Effects . . . . .	414
Methods Development . . . . .	447
Miscellaneous . . . . .	455
AUTHOR INDEX . . . . .	A-1
SUBJECT INDEX . . . . .	S-1

*Psychopharmacology Abstracts*, is arranged in seventeen categories so that readers may focus more readily on their areas of interest. The Subject and Author Indexes refer the user to the categories under which the abstracts will be found. Thus, in the number 097961 11-14, the first six digits refer to the abstract number, "11" refers to the issue of *Psychopharmacology Abstracts*, and "14" refers to the category

Carrie Lee Rothgeb, *Editor*  
Bette L. Shannon, *Managing Editor*

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
Public Health Service

Alcohol, Drug Abuse, and Mental Health Administration  
National Clearinghouse for Mental Health Information  
5600 Fishers Lane  
Rockville, Maryland 20852

# CONTENTS

Publication No. (ADM) 74-1

Printed 1974

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Subscription price per year in the United States, Canada, and Mexico: \$16.90; other countries, \$21.15. Single copy \$3.70. The Clearinghouse does not sell copies of *Psychopharmacology Abstracts*. Persons wishing to subscribe by the year or to purchase single copies should send their orders, accompanied by check or money order, directly to the Superintendent of Documents.

# ABSTRACTS

## PRECLINICAL PSYCHOPHARMACOLOGY

### 01 CHEMICAL SYNTHESIS, ISOLATION AND CHARACTERIZATION

079413 Neal, J. M.; Sato, P. T.; Johnson, C. L.; McLaughlin, J. L. Drug Plant Laboratory, College of Pharmacy, University of Washington, Seattle, Washington 98105 Cactus alkaloids X: isolation of hordenine and N-methyltyramine from *Ariocarpus kotschoubeyanus*. *Journal of Pharmaceutical Sciences*. 60(3):477-478, 1971.

The isolation of the cactus alkaloids, hordenine and N-methyltyramine from *Ariocarpus kotschoubeyanus* (Lemaire) Schumann is described. Hordenine hydrochloride and N-methyltyramine hydrochloride were crystallized from extracts of the cactus. Other alkaloids, which have been found in closely related *Ariocarpus* species, were not detected in this species. Extraction of the isolated alkaloids by percolation gave higher yields than continuous extraction. 14 references. (Author abstract modified)

082762 Ho, Beng T.; Noel, Michael B.; Tansey, L. Wayne. Texas Research Institute of Mental Sciences, Houston, Texas 77025 Hydroxyindole-O-methyltransferase VI: inhibitory activities of substituted benzoyltryptamines and benzenesulfonyltryptamines. *Journal of Pharmaceutical Sciences*. 60(4):636-637, 1971.

A number of benzoyltryptamines and benzenesulfonyltryptamines substituted on the phenyl ring with OH, NH<sub>2</sub> or NHCOCH<sub>3</sub> were synthesized, and their inhibitory activities on hydroxyindole-O-methyltransferase were evaluated. The results showed that the enzyme has tolerance for the NHCOCH<sub>3</sub> group on either the meta- or ortho-position. 6 references. (author abstract)

082764 Lowry, Betty R.; Huitric, Alain C. College of Pharmacy, University of Washington, Seattle, Washington 98105 Cis- and trans-2-(3,4,5-trimethoxyphenyl)cyclohexylamines: N-methyl and N,N-dimethyl derivatives. *Journal of Pharmaceutical Sciences*. 60(4):632-633, 1971.

The N-methyl and N,N-dimethyl derivatives of cis- and trans-2-(3,4,5-trimethoxyphenyl)cyclohexylamines were prepared for evaluation of psychotropic activity. Synthesis by catalytic reductive methylation and characterization by NMR spectroscopy are reported. Magnetic

nonequivalence of the methyl groups was observed in the trans-N,N-dimethyl derivative under acidic conditions where inversion of the nitrogen atom is suppressed. 3 references. (author abstract)

086577 Brochmann-Hanssen, Einar; Fu, Cherng-Chyi; Zanati, Galal. Department of Pharmaceutical Chemistry, School of Pharmacy, University of California, San Francisco, California 94122 Opium Alkaloids IX: detection of coreximine in *Papaver somniferum* L. based on its biosynthesis from reticuline. *Journal of Pharmaceutical Sciences*. 60(6):873-878, 1971.

Protoberberines are biosynthesized in plants from reticuline in such a way that the N-methyl group of reticuline becomes the methylene group in the 8-position. It was demonstrated in this study that coreximine, a tetrahydro-Psi-berberine, is also derived from reticuline. Plus or minus reticuline-(3-14C) administered to intact opium poppies was incorporated into coreximine to an extent of 0.174%, and controlled degradation showed that the radioactivity was located at the C-6 position. Consequently, it could be concluded that the opium poppy is capable of converting reticuline to coreximine, and that coreximine, like scoulerine and isocorypalmine, is a normal member of the opium alkaloids. In the same way, it was shown that canadine, tetrahydropalmatine, stylopine, and berberine were not present in the plants in detectable amounts. 27 references. (author abstract)

086796 Campaigne, E.; Knapp, D. R. Chemistry Laboratories, Indiana University, Bloomington, Indiana 47401 Structural analogs of lysergic acid. *Journal of Pharmaceutical Sciences*. 60(6):809-814, 1971.

A review of the published studies on analogs of lysergic acid is presented. Most of these comprise partial structures of lysergic acid or derivatives thereof, in which one or more of the rings have been opened or removed to discover the smallest fragment of polycyclic system that might retain biological activity. Analogs are discussed in terms of 47 chemical structural categories rather than by biological activity groups and include a number of structures either without biological activity or in which activity has not been tested. Oxytoxic activity, as measured in vitro or in vivo on guinea-

pig uterus, is the major aspect of activity considered. Other biological parameters include sympathetic nervous system effects, choline esterase inhibition and potentiation or inhibition of serotonin. Derivatives of cocaine can be viewed as related to those of lysergic acid; some testing of such compounds has been done relative to their action as local anesthetics. CNS effects have been reported for diethylamide derivatives of meperidine. 57 references.

087117 Fairbairn, J. W.; Liebmann, J. A.; Simic, S. Department of Pharmacognosy, School of Pharmacy, Brunswick Square, London W.C.1, England The tetrahydrocannabinol content of cannabis leaf. *Journal of Pharmacy and Pharmacology (London)*. 23(7):558-559, 1971.

The total tetrahydrocannabinol (THC) content of the leaves of plants grown in England has been determined, using a gas - liquid chromatography method of assay. Examination by thin-layer chromatography confirmed that both THC and THC-acid were present, equivalent to an average of 33mg/g dry weight. The fact that the leaves contain active material as well as the flowering or fruiting tops of the plant Cannabis may have consequences for the legal definition of Cannabis use. 11 references.

087366 Saucin, M.; Van de Vorst, A. Department of Atomic and Molecular Physics, University of Liege, Sart-Tilman par Liege 1, Belgium On the electron donating properties of the major tranquilizers. *Biochemical Pharmacology*. 20(4):909-911, 1971.

This study on the derivatives of phenothiazine, butyrophenone and 2-phenylpent-2-ene was undertaken to determine whether there is a correlation between the characteristics of the complexes (association constant, thermodynamic properties, etc.) and their biological activity. Charge transfer spectra of the complexes were recorded spectrophotometrically, with chloranil used as the acceptor. Most of the tranquilizers which are suf-

ficiently soluble form charge transfer complexes with chloranil. The spectrum consists of a broad and asymmetrical band, which appears as the sample temperature is lowered and increases in intensity with decrease of temperature, reversibly. The fact that the compounds studied are excellent electron donors norre, reversibly. The fact that the compounds studied are excellent electron donors could play a part in their mechanism of action on the behavior of self-stimulation. 7 references.

088583 Turk, Robert F.; Manno, Joseph E.; Jain, Naresh C.; Forney, Robert B. University of North Carolina, Department of Pharmacology, Chapel Hill, North Carolina 27514 The identification, isolation, and preservation of delta-9-tetrahydrocannabinol (delta-9-THC). *Journal of Pharmacy and Pharmacology (London)*. 23(3):190-195, 1971.

L-trans-delta9-tetrahydrocannabinol (THC) was isolated from marijuana plant extract, by adsorptive column and chromatography gas liquid. The adsorptive column chromatography method consisted of chromatographing marijuana extract on a column packed with a mixture of silica gel, (gas chromatography grade (100/120 mesh), silver nitrate and calcium sulphate (CaSO<sub>4</sub>H<sub>2</sub>O) (3:1:0.5) with benzene as the eluting solvent. The glc method consisted of chromatographing the extract on a 3 ft silanized glass column packed with 1.5ft of 2% QF-1 and 1.5ft of 2% OV-17 on chromosorb W, AW 30-60 mesh, prep grade. A purity of 99% for the isolated THC was confirmed by infrared spectroscopy, nuclear magnetic resonance, mass spectroscopy. The effects of storage conditions on THC stability, monitored by glc, indicated the best method for preserving THC was at 00, protected from light, stored under nitrogen. 10 references. (author abstract)

092896 Storm, Carlyle B.; Shiman, Ross; Kaufman, Seymour. Department of Chemistry, Howard University, Washington, D. C. 20001 The preparation of 6 substituted pterins via the Isay reaction (Unpublished paper). Washington, D. C., 1971. 10 p.

Various 6 substituted pterins have been prepared by a modification of the Isay reaction. When the condensation of either methyl glyoxal or phenyl glyoxal with 2,4,5-triamino-4-hydroxypyrimidine was carried out in the presence of 2-mercaptoethanol, mixtures of 6 and 7 substituted

pterins were obtained with the 6 isomer predominant. The pure 7-methyl and 6-phenylpterins were obtained from the mixture of isomers by crystallization from alkaline solution. 9 references. (Author abstract)

**094791** Nodiff, Edward A.; Sharma, Hoshiyari L.; Kohno, Tetsuya; Schnierle, Franz; Mori, Masami; Manian, Albert A. Germantown Laboratories, Franklin Institute, 4150 Henry Avenue, Philadelphia, Pennsylvania 19144 Synthesis of possible metabolites of chlorpromazine: IV. 7-hydroxy-nor1- and nor2-chlorpromazine sulfoxide. *Journal of Heterocyclic Chemistry*. 8:321-326, 1971.

Sulfoxides of chlorpromazine derivatives have been found by a number of investigators to be present in various biological media encountered in investigations of chlorpromazine metabolism. The synthesis of 7-hydroxy-nor2- chlorpromazine sulfoxide is described, and a much improved route to 7-hydroxy-nor1-chlorpromazine sulfoxide is presented. The schemes for these syntheses procedural details and analytical data are presented, as is a scheme for an unsuccessful attempt to reach the nor2 sulfoxide via a series of acylated precursors. Infrared spectral data are presented for the compounds of the 3 schemes. 10 references.

**098556** Ohlsson, A.; Abou-Chaar, C. I.; Agurell, S.; Nilsson, I. M.; Olofsson, K.; Sandberg, F. Department of Pharmacognosy, Faculty of Pharmacy, Box 6804, 113 86 Stockholm, Sweden Cannabinoid constituents of male and female Cannabis sativa. *Bulletin on Narcotics*. 23(1):29-32, 1971.

Qualitative and quantitative analysis of the chemical constituents of fresh male and female plants of cannabis sativa by thin layer chromatography (TLC) and gas liquid chromatography (GLC) as well as by mass spectrometry is reported. The data show that cannabinoids are present in all parts of the plants. Calculated on dry weight, the cannabinoids are most abundant in flowering tops and the young small leaves surrounding the flowers. Analysis of different parts of the plant suggests that there is usually little variation in the relative amounts of cannabidiol/delta-1-tetrahydrocannabinol. Comparison shows that both sexes contain roughly similar amounts of cannabinoids in similar ratios. GLC data shows that fresh cannabis material contains essentially no cannabinol, indicating that this compound may be entirely an artefact of aging.

None of the 2 samples rich in delta-1-tetrahydrocannabinol contained detectable amounts of delta-6-tetrahydrocannabinol. It is possible to grow marihuana rich in psychotomimetically active delta-1-tetrahydrocannabinol if one has the proper seed material. There is no valid basis for attempting to correlate the cannabinoid content with country of origin for a cannabis sample. It is also evident that in nature there is a variety of chemotypes of Cannabis sativa from extreme producing almost exclusively cannabidiol, over intermediate forms, to forms producing predominantly delta-1-tetrahydrocannabinol. 17 references. (Author abstract modified)

**100170** Agurell, Stig; Bruhn, Jan G.; Lundstrom, Jan; Svensson, Ulla. Department of Pharmacognosy, Faculty of Pharmacy, Box 6804, 113 86 Stockholm, Sweden Cactaceae alkaloids: X. alkaloids of Trichocereus species and some other cacti. *Journal of Natural Products*. 34(2):183-187, 1971.

The alkaloids of 14 species of Trichocereus are reported. Eight different previously known phenethylamines (tyramine, N-methyltyramine, hordenine, 3-methoxytyramine, 3,4-dimethoxyphenethylamine, N-methyl-3-methoxytyramine, 3-hydroxy-4,5 dimethoxyphenethylamine, and mescaline) were identified in these species. Mescaline was found to occur in T.cuzcoensis, T.fulvilanus, T.taquimbalsensis and T.validus. Mescaline was also present in small amounts in Stetsonia coryne together with traces of anhalidine and anhalonidine. The compound 3-hydroxy-4-methoxyphenethylamine was identified in a plant, Pachocereus pecten-aboriginum, apparently for the first time. The commonly occurring isomer 3-methoxytyramine was found to be the major alkaloid of Trichocereus cuzcoensis. A tetrahydroisoquinoline alkaloid, anhalidine, was isolated from Pelecypora aselliformis. 15 references. (Author abstract)

**100171** Kelleher, W.J.; Krueger, R.J.; Rosazza, J.P. Pharmacognosy Research Laboratories, University of Conn., Storrs, Conn. 06268 The violet pigment of lysergic acid alkaloid-producing cultures of Claviceps paspali: Fe(III) complex of 2,3-dihydroxybenzoic acid. *Journal of Natural Products*. 34(2):188-194, 1971.

The violet pigment which appears in high alkaloid producing fermentations of Claviceps paspali and which is especially evident in phosphate deficient fermentations was shown to be the Fe(III)

complex of 2,3-dihydroxybenzoic acid (2,3-DHB). This phenolic acid also accumulates in low alkaloid producing fermentations, but the violet color is very faint or absent. The explanation for this phenomenon is found in 2 observations: 1) inorganic phosphate can prevent or reverse the development of the violet color and 2) the uptake of phosphate from the medium is slow and incomplete in low alkaloid producing fermentations and rapid and quantitative in high alkaloid producing fermentations. The accumulation of alkaloids and 2,3-DHB both of which are derived from tryptophan in *C. Paspali*, occurs simultaneously and in a parallel manner. Fermentations which produce the highest levels of alkaloid also produce the highest levels of 2,3-DHB. In contrast to some other microorganisms, the production of 2,3-DHB is not triggered or enhanced by iron deficiency. Instead, the accumulation of both 2,3-DHB and alkaloids is reduced when a state of iron deficiency prevails. 29 references. (Author abstract)

103707 Ben-Zvi, Zvi; Mechoulam, Raphael; Edery, Habib; Porath, Gila. Laboratory of Natural Products, Hebrew University Pharmacy School, Jerusalem, Israel. 6-beta-Hydroxy-delta(1)-tetrahydrocannabinol synthesis and biological activity. *Science*. 174(4012):951-952, 1971.

The synthesis of 6-beta-hydroxy-delta(1)-tetrahydrocannabinol from delta(6)-tetrahydrocannabinol is reported. The compound is a metabolite of delta(1)-tetrahydrocannabinol, the predominant active principle in marihuana, and shows similar activity in rhesus monkeys. At a dose of 1mg/kg administered intravenously, the monkeys were drowsy, showed markedly decreased motor activity, and occasional partial ptosis and head drop. A lower dose (0.5mg/kg) of 6-beta-hydroxy-delta(1)-tetrahydrocannabinol did not cause any observable effects in monkeys, but at 2mg/kg, stupor, ataxia, suppression of motor activity and full ptosis were observed. The implications of these findings for cannabis studies in humans are discussed. Possibly the various psychological reactions produced by cannabis are due to varying ratios of several metabolites with different biochemical profiles. 15 references.

112783 Monti, Stephen A. Department of Chemistry, University of Texas at Austin, Austin, Texas 78712 /The development of synthetic techniques to introduce a functionalized carbon substituent

regioselectively into the benzene ring of an indole nucleus./ Terminal progress report. Final Report, NIMH Grant MH-15544, 1970.

The development of synthetic techniques to introduce a functionalized carbon substituent regioselectively into the benzene ring of an indole nucleus, is reported. Mannich reaction of free 5- and 6-hydroxyindoles yields the corresponding C-4 and C-7 substituted adducts. These substrates are converted, via nucleophilic displacement reactions to a series of nitrogen substituted hydroxyindole derivatives. The nature and scope of the reverse Mannich reaction of 5-hydroxyindole adducts has been evaluated. Bis Mannich adducts derived from 5-hydroxyindoles have been prepared, such as C-3 and C-4 substitution. Extensive attempts to use these and related materials to introduce a bridge between positions 3 and 4 were unsuccessful. Michael additions to 5-hydroxyindoles result in C-3 substitution. A 3 carbon C-4 substituted derivative of 5-hydroxyindole can be prepared via a Claisen-type rearrangement of the C-5 allyl ether. Attempts to use derivatives of this type to furnish C-3, C-4 bridged substances are under current investigation. 3 references.

113974 Jandacek, Ronald J.; Earle, Kenneth M. Armed Forces Inst. of Pathology, Washington, D.C. The crystal structure of L-dopa hydrochloride, 3-(3,4-dihydroxyphenyl)-L-alanine hydrochloride, C<sub>9</sub>H<sub>12</sub>O<sub>4</sub>NCl. *Acta Crystallographica*. B27(4):841-845, 1971.

The crystal structure of L-dopa hydrochloride, 3-(3,4-dihydroxyphenyl)-L-alanine hydrochloride, was determined from 3 dimensional data collected manually with a General Electric XRD6 diffractometer using Cu K alpha radiation. The crystals are monoclinic, P2 (1). The structure was refined to a conventional R value of 7.0%. Extensive intermolecular hydrogen bonding is present. The aromatic ring forms an angle of 39.1 degrees with the plane of the carboxyl group. (Author abstract)

114765 Miyadera, Tetsuo; Terada; Atsutsuke; Fukunaga, Mitsunobu; Kawano, Yoichi; Kamioka, Toshiharu; Tamura, Chihiro; Takagi, Hiromu; Tachikawa, Ryuji. Research Laboratories Sankyo Co., Tokyo, Japan Anxiolytic sedatives, I. Synthesis and pharmacology of benzo (6,7)-1,4-diazepino(5,4-b) oxazole derivatives and analogs. *Annual Report of Sankyo Research Laboratories (Tokyo)*. 23:278-279, 1971.

A report on chemical synthesis and pharmacological effect of benzo (6,7)-1,4-diazepino(5,4-b)oxazole derivatives and analogs is presented. A majority of compounds are found to have an excellent anxiolytic sedative action. The relationship between their chemical structure and antibemegride activities is studied. (Author abstract)

## 02 DRUG DEVELOPMENT (PRECLINICAL SCREENING)

**077908** Crankshaw, D. P.; Raper, C. Department of Pharmacology, University of Melbourne, Parkville, Victoria 3052, Australia The effect of solvents on the potency of chlordiazepoxide, diazepam, medazepam and nitrazepam. *Journal of Pharmacy and Pharmacology (London)*. 23(5):313-321, 1971.

ED50 values for loss of righting reflex in mice have been determined for a series of benzodiazepines after intraperitoneal injection of the drugs in various vehicles. The vehicles used greatly modified the ED50 value obtained. The effects obtained were due either to a failure of the vehicle to achieve or maintain complete solubilization of the drug, or to the pharmacological action of the vehicle modifying that of the drug. Diazepam, medazepam and nitrazepam are insoluble in water, but are soluble in dimethylsulphoxide (DMSO) and in aqueous vehicles containing glycofurol or propylene glycol. Chlordiazepoxide hydrochloride is water soluble. Similar ED50 values were obtained in experiments where the benzodiazepines were injected in an aqueous carboxymethylcellulose suspension and in experiments where the drugs were dissolved in vehicles containing propylene glycol or glycofurol. The increase in potency of the benzodiazepines could be ascribed either to the solubilization of the drugs or to the synergistic pharmacological activity of the solvents. An ED50 value for diazepam, which was not influenced by the pharmacological activity of the solvent, could be obtained using the vehicles containing either glycofurol or propylene glycol. For medazepam and nitrazepam, the solvent mixtures containing propylene glycol and glycofurol respectively were required to avoid drug - solvent interactions. 14 references. (author abstract)

**077991** Kimura, E. T.; Dodge, P. W.; Young, P. R.; Johnson, R. P. Pharmacodynamics Department, Division of Experimental Therapy, Abbott Labora-

tories, North Chicago, Illinois 60064 Pharmacologic studies with ABBOTT-30360, an analgesic-tranquillizer, and its analogues. *Archives Internationales de Pharmacodynamie et de Therapie (Gand)*. 190(1):124-134, 1971.

4'-Fluoro-4-(8-fluoro-2,3,4,5-tetrahydro-1H-pyrido(4,3-b) indol-2-yl) butyrophenone hydrochloride (ABBOTT-30360) was found to be an orally effective analgesic tranquilizer with an analgesic potency within the morphine range and a neuropharmacologic profile characteristic of a major tranquilizer. It showed a low potential for addictiveness and physical dependency capacity in monkeys and dogs. Other studies showed it to be essentially free of any significant effects on organ systems. Structural modifications altered analgesic potencies in mice but did not abolish the dose dependent tremorigenic capacity in dogs of selected ABBOTT-30360 analogues. 15 references. (author abstract)

**078250** Powell, Barbara J.; Hopper, Dotty J. Malcolm Bliss Mental Health Center, St. Louis, Missouri 63104 Effects of strain differences and D-amphetamine sulfate on avoidance performance. *Psychonomic Science*. 22(3):167-168, 1971.

The strain differences and amphetamine effects on avoidance performance of the Maudsley reactive (MR) and Maudsley nonreactive (MNR) strains of rats were investigated. It was predicted that with amphetamine avoidance performance of the nonreactive strain would be enhanced more than that of the reactive strain. There was no significant difference in performance between the 2 strains; however, groups which received amphetamine had better performance than those receiving placebo. 7 references. (Journal abstract)

**080630** Glasser, Arthur C.; Diamond, Louis; Combs, George. College of Pharmacy, University of Cincinnati, Cincinnati, Ohio 45221 Synthesis and anticonvulsant activity of substituted 2-thioquinazolin-4-ones I: preliminary studies. *Journal of Pharmaceutical Sciences*. 60(1):127-129, 1971.

In a preliminary study, some substituted thioquinazolin-4-ones are synthesized and tested for anticonvulsive activity in mice. A series of 2-thioquinazolin-4-ones with varying substituents on position 2, 3, or 6 was synthesized and studied for their ability to prevent maximal electroshock and chemoshock seizures in mice within the dosage range of 10 to 600 mg/kg. The 2-ethylthio-3-(2-phenyl) ethylquinazolin-4-one exhibited full pro-

tection against electroshock at the 100mg/kg level. The compound 2-carboxymethylthio-3-(2-phenyl)ethylquinazolin-4-one showed full protection against electroshock at the 600mg/kg level and partial activity at the 100mg/kg level. Other than these examples of activity, there was little significant activity in the remaining members of the series, with 2-ethylthio-3-phenylquinazolin-4-one showing only partial protection at both the 600 and 100mg/kg levels. With one exception within the dosage range studied, none of the compounds appeared to be active in preventing pentylenetetrazole seizures, thus indicating that the compounds possibly act in an analogous manner to diphenylhydantoin and related molecules. 16 references. (Author abstract modified)

087062 Barfknecht, Charles F.; Smith, Robert V.; Nichols, David E.; Leseney, James L.; Long, John P.; Engelbrecht, James A. Division of Medicinal Chemistry, College of Medicine, University of Iowa, Iowa City, Iowa 52240 Chemistry and pharmacological evaluation of 1-phenyl-2-propanols and 1-phenyl-2-propanones. *Journal of Pharmaceutical Sciences*. 60(5):799-801, 1971.

Since methoxylated amphetamines are psychomimetics related to, and generally more potent than, mescaline, the oxygen analogs, various ring methoxylated 1-phenyl-2-propanols and 1-phenyl-2-propanones, were synthesized and pharmacologically evaluated. Most compounds had depressant like activity. The ketones were readily reduced by rabbit liver microsomes. No reductase activity was found in rat and mouse liver preparations. Partition coefficients were determined, and a linear correlation between LRA 50's (loss of righting ability in 50% of the mice) and partition coefficients was observed for 6 of the compounds investigated. 13 references. (author abstract modified)

091281 Nucifora, T. L.; Malone, M. H. 17 Winfield Drive, Stratford, Connecticut 06497 Comparative psychopharmacologic investigation of cryogenine, certain non-steroid anti-inflammatory compounds, lupine alkaloids and cyproheptadine. *Archives Internationales de Pharmacodynamie et de Therapie (Gent)*. 191(2):345-356, 1971.

After observational screening in rats to determine nonataxic dosages, intraperitoneally administered cryogenine was effective in inhibiting discrete conditioned avoidance responding and to a lesser extent in inhibiting continuous condi-

tioned avoidance responding. Sparteine, cytosine and lupinine appeared to be without true neuroleptic potential as were indomethacin and phenylbutazone. Cyproheptadine at a dosage of 2.8mg/kg slowed reaction time in discrete avoidance testing, while 8.9mg/kg blocked both conditioned and unconditioned responses with some gross evidence of disorientation seen. Chlorpromazine and tetrabenazine were reference neuroleptics. While these clinically effective neuroleptics may block inflammation in animals, clinically effective antiinflammatories are not necessarily neuroleptics in animal testing. 14 references. (Author abstract)

091558 Lwoff, J.-M.; Larousse, C.; Simon, P.; Boissier, J.-R. Unite de Neuropsychopharmacologie de l'INSERM, 2, rue d'Alesia 75-Paris, France /Psychopharmacological profile of a potential antidepressant pertaining to the pyridobenzodiazepine series./ Profil psychopharmacologique d'un antidepressant potentiel appartenant a la serie pyridobenzodiazepine. *Therapie (Paris)*. 26(3):451-457, 1971.

The psychopharmacological profile of UP 106, a new tricyclic derivative, is essentially characterized by the following criteria: no modification of animal behavior in free situation; potentiation of amphetamine induced stereotypes in rats and yohimbine toxicity in mice; antagonism of reserpine and oxotremorine effects in mice, and antagonism of neuroleptic induced catalepsy in rat. The psychotropic properties of UP 106 are similar to those of imipramine like antidepressive drugs. Clinical trials bear out the provisional value of this battery of tests in thymonaleptic activity forecasting. 9 references. (Journal abstract)

094620 Boissier, J. R.; Dumont, C. Unite de Recherche de Neuro-Psycho-Pharmacologie, 2, rue d'Alesia, 75-Paris (14), France /Pharmacological study of a newly derived neuroleptic: oxafumazine./ Etude pharmacologique d'un nouveau derive neuroleptique: l'oxafumazine. *Therapie (Paris)*. 26(3):481-496, 1971.

Oxafumazine possesses potent neuroleptic properties elicited by behavioral manifestations and psychopharmacological tests in animals. It exhibits a strong cataleptic activity. It depresses exploratory motor activity, induces a psychomotor incapacitation (chimney, rotarod, traction) and inhibits hyperexcitability and aggressive reactions (stereotypes, amphetamine group toxicity, electri-

cal fighting behavior). Moreover, it presents a central depressive potency and some neurovegetative effects such as hypothermia, antiemetic, adrenolytic, antihistamine and antiserotonine actions. Its acute toxicity is rather weak. Pharmacological studies show that oxafloxazine is a polyvalent neuroleptic drug with desinhibitory, antipsychotic and sedative properties. 21 references. (Journal abstract)

**105390 Nakajima, Ryoko; Hattori, Chiyoko; Nagawa, Yuji.** Biological Research Laboratories, Takeda Chemical Industries, Ltd., Higashiyodogawa-ku, Osaka, Japan Structure-activity relationship of s-triazolo-1,4-benzodiazepines in central nervous depressant action. *Japanese Journal of Pharmacology* (Kyoto). 21(4):489-495, 1971.

The central nervous depressant activity of 18 new 6-phenyl-4H-s-triazolo (4, 3a)(1,4) benzodiazepines was studied by 7 standard biological tests in small animals. Most s-triazolobenzodiazepines with a chloro, nitro, or trifluoromethyl group in position 8, as well as a hydrogen or methyl group in position 1, were equipotent or more potent than the already known 1,4-benzodiazepines in their anticonvulsive, muscle relaxant, calming and sedative effects. The structure - activity relationship of s-triazolobenzodiazepines can be summarized as follows: 1) electron withdrawing substituents in position 8 enhanced the activity, but electron releasing substituents did not affect the activity remarkably; 2) introduction of a methyl group into position 1 was always most effective in increasing activity, and substituents larger than ethyl in the same position showed an unfavorable effect on activity. 3) substitution of a methoxy group in the para position of the 6-phenyl ring caused a pronounced decrease in activity. 12 references. (Author abstract modified)

**105392 Nakajima, Ryoko; Take, Yomei; Moriya, Reiko; Saji, Yoshiaki; Yui, Tohoru; Nagawa, Yuji.** Biological Research Laboratories, Research and Development Division, Takeda Chemical Industries, Ltd., Higashiyodogawa-ku, Osaka, Japan Pharmacological studies on new potent central depressants, 8-chloro-6-phenyl-4H-s-triazolo(4,3a)(1,4) benzodiazepine (D-40TA) and its 1-methyl analogue (D-65MT). *Japanese Journal of Pharmacology* (Kyoto). 21(4):497-516, 1971.

Two triazolobenzodiazepines, D-40TA (8-chloro-6-phenyl-4H-s-triazolo (4,3a)(1,4)benzodiazepine) and D-65MT, its 1-methyl analogue, were found to have potent tranquilizing, anticonvulsive, and muscle relaxant effects in various animals. These properties resemble quantitatively those of well known 1,4-benzodiazepines. Both triazolo compounds were also more effective than nitrazepam in inducing sleep in monkeys. Although the attenuating effect of acutely administered D-40TA on experimentally induced conflict in rats was apt to be masked by its remarkable depressant action on the lever pressing responses in periods reinforced with reward alone, chronic administration disclosed powerful conflict attenuation in association with development of tolerance to the depressant effect. On the contrary, avoidance failure resulting from the decreased lever pressing responses by D-40TA in nondiscriminated avoidance behavior of the rats were clearly augmented by chronic administration. Selective depression of discriminated avoidance behavior in rats and antiapomorphine emesis in dogs, which have been known to be properties of neuroleptics, were also shown by D-40TA. This compound, however, was differentiated from neuroleptics in the absence of antiapomorphine and antimethamphetamine stereotypies in rats. The acute toxicities of D-40TA and D-65MT in mice and rats were very low. 21 references. (Author abstract modified)

**105408 Burkard, W.P.; Jalfre M.; Blum J.E.; Haefely, W.** Department of Experimental Medicine, F.Hoffman-La Roche & Co., Ltd., 4002 Basel, Switzerland 1,3-Bis(4-(p-methoxyphenyl)piperazinyl)-2-propanol (Ro 8-2580): a new monoamine depletor. *Journal of Pharmacy and Pharmacology* (London). 23(8):646-648, 1971.

A new compound, 1,3-bis(4-(p-methoxyphenyl)-1-piperazinyl)-2-propanol, (Ro 8-2580), which decreases monoamines and produces slight sedation, is described. Pharmacological investigation and amine determinations were performed on rats after a single dose of Ro 8-2580. Two to 4 hr. after 100micromoles/kg of Ro 8-2580 all 3 brain amines were 50% below controls. The relatively rapid decrease of the brain amines is paralleled by a diminished exploratory activity (rearing and walking); the recovery of the activity after 24 hr was quicker than that of the amines. In spite of this difference it appears that motor activity in an unfamiliar environment correlates much better

with the amine depletion than does the motor activity in a familiar environment. Unexpectedly, Ro 8-2580 neither produced catalepsy nor potentiated pentobarbitone sleeping time nor decreased the temperature. Interference with storage capacity constitutes the most likely mechanism for the monoamine lowering effect of Ro 8-2580. 17 references.

**105824** Protiva, M.; Jilek, J.O.; Metysova, J. Research Institute for Pharmacy and Biochemistry, Kourimska 17, Prague 3, Czechoslovakia N-substituted analogues of neuroleptics of the octoclotheptin series: relations between structure and activity. *Activitas Nervosa Superior (Praha)*. 13(3):184-185, 1971.

Results of a pharmacological comparison of the 4 N-(hydroxyalkyl) noroctoclotheptins in acute toxicity in mice, rotating rod test in mice, potentiation of the thiopental sleeping time in mice, and test of catalepsy in rats are reported. Findings indicate that all 4 substances have considerable tranquilizing effects, although they do not attain the tranquilizing action of octoclotheptin, and that the 3-hydroxybutyl and 4-hydroxybutyl compounds are more active than octoclotheptin in the test of catalepsy. In comparison with octoclotheptin, oxyprotheptin revealed a shifted spectrum of activity in its enhancement of cataleptic and reduction of tranquilizing activity.

**105839** Metysova, J.; Metys, J. Research Institute for Pharmacy and Biochemistry, Kourimska 17, Prague 3, Czechoslovakia Pharmacological properties of a new potential neuroleptic drug oxyprotheptin: I. The action on the central nervous system in rodents *Activitas Nervosa Superior (Praha)*. 13(3):185-186, 1971.

Oxyprotheptin revealed a high degree of neuroleptic activity in preliminary pharmacological trials. In rats, the substance was found to be cataleptogenic, especially after parenteral administration. At very low oral levels, oxyprotheptin caused palpebral ptosis in rats that was partially reversible. In comparison with clinically proved neuroleptics, oxyprotheptin in mice possessed certain common features with octoclotheptin, on the one hand, and perphenazine, on the other. Oxyprotheptin was shown to be more active than either of these drugs in the catalepsy and ptosis tests in rats. 7 references.

**105998** Krsiak, M.; Dvorak, Z.; Raskova, H.; Masek, K. Institute of Pharmacology CSAV, Albertov 4, Prague 2, Czechoslovakia Effect of palmitoyl ethanolamide on the central nervous system. *Activitas Nervosa Superior (Praha)*. 13(3):208-209, 1971.

In a test of the effect of palmitoyl ethanolamide in mice and rats, varying doses failed to induce a loss of the righting reflex, falling off the rota-rod, or ptosis but did increase exploratory activity significantly. The administration of palmitoyl ethanolamide in general did not induce marked behavioral or neurological changes. No signs of adrenergic stimulation or stereotypic movements were observed. The drug appears to have an antagonistic effect on ethanol, the mechanism of which has not yet been determined. 9 references.

**106154** Johnson, D.N.; Funderburk, W.H.; Ward, J.W. A.H. Robins Research Laboratories, Richmond, Virginia 23220 Neuropharmacologic analysis of AHR-2277: a new psychotherapeutic agent. *Archives Internationales de Pharmacodynamie et de Therapie (Gent)*. 194(1):197-208, 1971.

Results of a preliminary neuropharmacologic analysis of AHR-2277, a new psychotherapeutic agent with major tranquilizing properties, are reported. Like chlorpromazine and haloperidol, the drug suppressed conditioned avoidance responding in 2 laboratory animal species in doses below those which produced obvious motor deficits. It was more potent than chlorpromazine but less potent than haloperidol in preventing amphetamine induced death in mice under aggregated conditions. Like other major tranquilizers, the drug did not possess anticonvulsant action in mice. Electroencephalographic parameters of AHR-2277 studied in conscious, paralyzed cats suggested the drug was similar in action to haloperidol, yet differed in some parameters from chlorpromazine. 11 references. (Author abstract modified)

**109920** Oksenkrug, G.F.; Samsonova, M.L. Laboratoriya psikhofarmakologii Leningradskogo nauchnoissledovatel'skogo psikhonevrologicheskogo instituta im. V.M. Bekhtereva /Role of central serotonergic processes in development of head twitches in mice and rats under the influence of tryptophan./ Rol' tsentral'nykh serotoninergicheskikh protsessov v vozniknovenii fenomena vstryakhivaniy golovy u myshey

i kry's pod vliyaniyem triptofana. *Byulleten'eksperimental'noy biologii i meditsiny (Moskva)*. 72(7):55-57, 1971.

The phenomenon of head twitches is observed in mice and rats upon injection of tryptophan in doses exceeding 100mg/kg against a background of 15 to 50mg/kg of phenelsine inhibition of monoaminoxidase activity. Head twitches occur only in those animals in which the cerebral serotonin level is 3 times greater compared to normal levels. Serotonin antagonists BOL-148 and deseryl in a dose of 1mg/kg, injected 30 minutes after tryptophan, as well as tryptophanhydroxylase parachlorophenylalanine inhibitor in a dose of 300mg/kg, injected 1 hour before tryptophan, reduced or completely prevented the appearance of this phenomenon. The results obtained permit the assumption that this phenomenon under the influence of a combination of tryptophan and phenelsine is associated with the increased content of cerebral serotonin up to a definite threshold level. 13 references. (Journal abstract modified)

116385 Takagi, Hiromu; Kobayashi, Shinsaku; Kamioka, Toshiharu. Research Laboratories San-kyo Co., Tokyo, Japan Pharmacology of new minor tranquilizers, benzodiazepinooxazole derivatives. *Annual Report of San-kyo Research Laboratories*. 23:1-53, 1971.

The pharmacological action of new minor tranquilizers, benzodiazepinooxazole derivatives based on the anti-bemegride test, anti-pentylenetetrazole test, anti-fighting test, and the anti-maximal electroshock test on animals is presented. The results show that benzodiazepoxide derivatives are essentially similar to diazepam, chlórdiazepoxide and other benzodiazepines. Oxazolam, CS-370 and CS-386 demonstrated more specific antibemegride and antipentylenetetrazole actions and lesser effects on the motor functions than those of diazepam. Oxazolam is found to possess not only an anxiolytic sedative action but also an antidepressant action and other useful actions. The few side effects of oxazolam are demonstrated by many physicians in clinical practices. 159 references. (Journal abstract modified)

118200 Jaques, R.; Helfer, H. Biological Research Laboratories, Pharmaceutical Division, Ciba-Geigy Ltd., CH-4000 Basel, Switzerland The antinociceptive action of a novel anxiolytic and tensiolytic drug (benzocetamine) in two different writhing syndromes. *Pharmacology (Basel)*. 6(1):35-40, 1971.

The antinociceptive action of a novel anxiolytic and tensiolytic drug was examined in the rat. Using different writhing syndromes induced by arachidonic acid peroxide or phenyl-p-benzoquinone, it was shown that benzocetamine is capable of exerting a pronounced antinociceptive (analgesic) action in mice already at a dosage which does not lead to any disturbance of the locomotor activity. 22 references. (Author abstract modified)

122758 Bedecs, Michael J. Western Michigan University, Kalamazoo, MI The effects of several chemical agents on short term memory. (Master's Thesis). *Masters Abstracts*. Ann Arbor, Mich., Univ.M-films, No.M-3005 HC\$10.00 MF\$4.00 37 p.

The effects of intrahippocampal injections of cycloheximide, puromycin, acetylcholine, 1, 1, 3-tricyano-2-amino-1-propene and both intrahippocampal and cortical applications of tetraethylpyrophosphate were tested in a short memory behavioral paradigm with rats. The results indicate a loss of memory for an aversive consequence (shock), following the individual application of these drugs. (Journal abstract modified)

124103 Rodriguez, Rodolfo; Pardo, Efrain G. Instituto Mils de Terapeutica Experimental, Calzada Xochimilco 77, Apartado 22026, Mexico 22, D.F. Quipazine, a new type of antidepressant agent. *Psychopharmacologia (Berlin)*. 21(1):89-100, 1971.

Quipazine, (2-(1-piperazinyl)quinoline), a new type of antidepressant is discussed. Common properties include the ability to antagonize reserpine and tetrabenazine sedation in mice and rats, to reverse reserpine hypothermia in rats and to inhibit selectively the mouse killing behavior of rats. In all these actions, quipazine is approximately equipotent with imipramine, desipramine and amitriptyline. Quipazine is far less effective than imipramine in potentiating the locomotor stimulation elicited by d-amphetamine. Quipazine differs from tricyclic antidepressants in that it does not enhance responses induced by exogenous or endogenous norepinephrine and does not block the effects of indirectly acting sympathomimetic amines. Furthermore, quipazine, unlike imipramine, counteracts tetrabenazine induced sedation in catecholamine depleted animals. These findings suggest that the pharmacological actions of quipazine do not involve adrenergic mechanisms. 35 references. (Author abstract)

124104 Barkov, N.; Geller, A.; Jarvik, M.E. Albert Einstein College of Medicine, New York, NY

The behavioral effects of a new psychoactive drug (d-carbaine) on a passive avoidance response and locomotion and its interaction with amphetamine. *Psychopharmacologia (Berlin)*. 21(1):82-88, 1971.

The relationship between amphetamine and a new psychotropic drug, carbidin (in comparison with imipramine and chlorpromazine) was studied on a test of activity and the passive avoidance conditioned response. Carbidin and imipramine would appear to differ from chlorpromazine in their mode of action on conditioned response. Looking at the interactions between amphetamine and the other drugs in the two tests differences in the mode of action of carbin and imipramine becomes apparent. Whereas in the passive avoidance conditioning situation both drugs had similar effects alone and in combination with amphetamine in the activity test, though both are without effect when given alone, in combination with amphetamine the interactions are in opposite direction. Imipramine has a synergistic effect, whereas carbidin has marked antagonistic affect completely reversing the amphetamine induced increase in activity. 13 references. (Author abstract)

### 03 MECHANISM OF ACTION: PHYSIOLOGICAL, BIOCHEMICAL AND PHARMACOLOGICAL

074843 Leonard, B. E.; Shallice, Susan A. Pharmacology Section, Imperial Chemical Industries Ltd., Pharmaceuticals Division, Alderley Park, Macclesfield, Cheshire, England Some neurological effects of amphetamine, methylamphetamine and p-bromomethylamphetamine in the rat. *British Journal of Pharmacology (London)*. 41(1):198-212, 1971.

The effects of amphetamine, methylamphetamine and p-bromomethylamphetamine on biogenic amines and their precursor amino acids in the brain are compared in the rat because of the contrast between the structural similarities of these phenylethylamines and their pharmacological effects. It was found that low doses of D-amphetamine increased brain noradrenaline concentrations in the rat; doses greater than 5mg/kg, however, caused a decrease. Methylamphetamine also showed this dual effect, but a reduction in brain noradrenaline concentration only occurred when doses greater than 10mg/kg were administered. p-Bromomethylamphetamine did not significantly reduce brain noradrenaline concentrations even at

a dose of 60mg/kg. The order of potency in reducing the concentration of noradrenaline correlated with the central stimulant effects; D-amphetamine produced the greatest and p-bromomethylamphetamine the least increase in motor activity. D-Amphetamine and D-methylamphetamine potentiated the action of 4-alpha-dimethyl-m-tyramine (H77/77) in depleting brain noradrenaline; the greatest potentiation was produced by D-amphetamine. This suggests that the phenylethylamines may affect brain noradrenaline concentrations by acting on the reserpine uptake mechanism. Differences were found in the effect of the 3 drugs on brain dopamine concentrations; D-amphetamine caused a decrease while p-bromomethylamphetamine caused an increase. Methylamphetamine had no effect on the concentration of dopamine. Only p-bromomethylamphetamine significantly reduced the depletion of brain dopamine concentrations caused by H77/77. Methylamphetamine and p-bromomethylamphetamine reduced the concentration of 5-hydroxytryptamine (5-HT) in the brain; administration of the same dose of D-amphetamine did not change the concentration of 5-HT. Changes in the blood and brain concentrations of tyrosine and tryptophan, and in the concentration of gamma-amino-n-butyric acid in the brain could not be correlated with the changes observed in the concentrations of biogenic amines in the brain. 37 references. (Author abstract modified)

077428 Mannisto, Pekka; Linnolla, Markku; Lepaluoto, Juhani. Department of Pharmacology, University of Helsinki, Helsinki 17, Finland Studies with lithium in euthyrotic, hyperthyrotic and hypothyrotic rats. *Life Sciences (Oxford)*. 10(1):9-19, 1971.

The thyroid function of euthyrotic, hypothyrotic and hyperthyrotic rats was studied before and after a 2 weeks' lithium chloride (LiCl) treatment. The weights of the adenohypophyses, neurohypophyses, adrenals and especially thyroid glands were greater in Li treated hypothyrotic or hyperthyrotic animals. Serum protein-bound iodine levels were unaffected by Li. The neck I-131 uptake values showed that Li decreased the uptake in euthyrotic animals but increased it in all the other groups. When the mass of the thyroid lobe was taken into consideration, Li increased the uptake in the control and hyperthyrotic animals. In electrophoretic analysis Li caused an

increase of thyroidal inorganic iodine in all groups. Chromatographically it was noticed that Li decreased the formation of iodothyronines. The results suggest that Li increases thyroidal iodide, which decreases the formation of T4 and T3. The goitrogenic effect of Li seems to be augmented by a previously pathologic thyroidal state. 15 references. (author abstract)

**077709** Carroll, Bernard J.; Dodge, Judith. University of Melbourne, Department of Psychiatry, Royal Melbourne Hospital, Victoria, 3050, Australia L-tryptophan as an antidepressant. *Lancet (London)*. No. 7750:915, 1971.

A letter to the editor reports on the effect of pyridoxine on the rise in rat brain serotonin (5-HT) and 5-hydroxyindole-acetic acid (5-HIAA) following L-tryptophan (TP) load. The basal values of 5-HT and 5-HIAA were 1.17 and 0.44 micrograms per g, respectively. The basal turnover rate of 5-HT was not affected by pyridoxine pretreatment. This suggests that pyridoxine supplements do not explain the ineffectiveness of tryptophan as an antidepressant. The possible long-term toxicity of tryptophan in high dosage requires careful consideration. 18 references.

**077725** Weinstein, H.; Varon, S.; Roberts, E. Division of Neurosciences, City of Hope Medical Center, Duarte, California 91010 Effects of imipramine on the Na-ion-dependent exchange and retention of gamma-aminobutyric acid by mouse brain subcellular particles. *Biochemical Pharmacology*. 20(1):103-117, 1971.

The effects of imipramine were investigated with respect to exchange and net content of gamma-aminobutyric acid (GABA) in mouse brain subcellular particles in the presence of sodium (Na) ion at 2 degrees. The effects of chlorpromazine and orphenadrine on the system were also investigated. Evidence is presented indicating an inhibition by these 3 drugs of the Na ion dependent binding of GABA to sites on the membrane which mediate a transmembrane flux of GABA. In the presence of greater concentrations of these drugs a pronounced increase in a non-mediated efflux of endogenous GABA from particles were detected. Studies of the binding of tritiated imipramine demonstrated a complex relationship to drug concentration, indicative of 2 distinct uptake processes. This paper discusses the possible correlation between the 2 components of the imipramine binding and the effects

of the drug on the exchange and net release of GABA by the particles. 8 references. (author abstract)

**077726** Rutledge, Charles O.; Deltrich, Richard A. Department of Pharmacology, University of Colorado School of Medicine, Denver, Colorado 80220 Inhibition of aldehyde dehydrogenase by 2-chloroacetophenone and the resultant effects of the catabolism of norepinephrine on brain. *Biochemical Pharmacology*. 20(1):193-201, 1971.

Rabbit brain cortex slices were incubated with <sup>14</sup>C-norepinephrine and the amounts of <sup>14</sup>C-phenolic acids and <sup>14</sup>C-phenolic glycols formed were measured. Pretreatment of rabbits with 2-chloroacetophenone, 300mg/kg, results in an inhibition of the formation of phenolic acids (especially dihydroxymandelic acid) and a corresponding stimulation of the formation of phenolic glycols. Similar results were observed when the 2-chloroacetophenone was incubated in vitro with brain tissue slices. The concentrations of 2-chloroacetophenone required to inhibit an isolated enzyme preparation of aldehyde dehydrogenase and to inhibit the production of dihydroxymandelic acid in brain tissue slices are similar, which suggests that the effect of 2-chloroacetophenone on norepinephrine metabolism is due to inhibition of aldehyde dehydrogenase. The decrease in aldehyde dehydrogenase activity leads to an increase in substrate available for reduction to phenolic glycols and probably accounts for the observed stimulation of phenolic glycol formation. The effect of 2-chloroacetophenone on norepinephrine metabolism or on isolated aldehyde dehydrogenase could be prevented with glutathione. In addition, the effect on aldehyde dehydrogenase could be reversed with sulfhydryl reagents. This suggests that the interaction of 2-chloroacetophenone with sulfhydryl groups may be important in the inhibition of aldehyde dehydrogenase. 15 references. (author abstract)

**077855** Kuhar, M. J.; Shaskan, E. G.; Snyder, S. H. Department of Pharmacology, The Johns Hopkins University School of Medicine, Baltimore, Maryland 21205 The subcellular distribution of endogenous and exogenous serotonin in brain tissue: comparison of synaptosomes storing serotonin, norepinephrine, and gamma-aminobutyric acid. *Journal of Neurochemistry (London)*. 18(3):333-343, 1971.

The subcellular distribution of exogenous and endogenous serotonin was studied in slices from the hypothalamus and midbrain of several species. In a procedure which appears to label the endogenous pools, tissue slices were incubated with low concentrations of (3H15-HT) (0.0000005M) for 45 min, when there was apparent equilibrium between 3H15-HT of tissue and medium. After the tissue slices were homogenized in 0.32M sucrose and subjected to differential centrifugation, the distribution of exogenous and endogenous 5-HT in pellets and supernatant fluid was similar. In some experiments, the crude mitochondrial pellets were resuspended in 0.32M sucrose, layered on linear, continuous density gradients of sucrose (1.5 to 0.32M), and centrifuged for short times (incomplete equilibrium centrifugation). The subcellular distribution of particulate tritium, total tritium, and particulate endogenous 5-HT was the same in portions of the gradients containing synaptosomes. The peak distribution of 03H15-HT in sucrose gradients was separable from the peak for 04C1-gamma-aminobutyric acid by 4 to 5 fractions; potassium (a marker for cytoplasm occluded within synaptosomes) occurred in the regions of the gradients containing most of the labelled compounds. The distribution of monoamine oxidase activity (a mitochondrial marker) overlapped the distribution of 03H15-HT after a 15 min centrifugation but appeared in denser regions of the gradient after centrifuging for 2 h. Particles containing 03H15-HT and 014C-norepinephrine were slightly but consistently separable in synaptosomal fractions isolated from the hypothalamus or midbrain of rat, guinea pig and hamster. 27 references. (author abstract)

077868 Huff, J. A.; Davis, V. E.; Brown, H.; Clay, M. M. Metabolic Research Laboratory, Veterans Administration Hospital, and College of Pharmacy, University of Houston, Houston, Texas 77031 Effects of chloral hydrate, paraldehyde, and ethanol on the metabolism of (14C)-serotonin in the rat. *Biochemical Pharmacology*. 20(2):476-482, 1971.

The effect of chloral hydrate or ethanol on the metabolism of serotonin within the nervous system was tested. The lateral ventricle of the rat brain was injected with 14C-5-hydroxytryptamine after treatment with chloral hydrate or ethanol. The 24 hour urine was examined for serotonin and some of its metabolites and compared with

those obtained following i.v. administration of 14C-serotonin. The effects of paraldehyde on the metabolism of i.p. injected labeled serotonin were also investigated. Ethanol was administered to the rats in a 25% solution in normal saline; the chloral hydrate, prepared from crystals, was made up in a 2.5% solution of 0.45% NaCl; and paraldehyde was injected as a 5% solution in 0.45% NaCl. The isotope was administered intraventricularly into the lateral ventricle of the rat brain. Chloral hydrate markedly reduced the amount of urinary 14C-5-hydroxyindoleacetic acid in the i.p. administered serotonin, the most significant increase was in the 5-hydroxytryptophol in the animals receiving chloral hydrate and ethanol. Other results suggest that more than half of the intraventricularly injected serotonin was metabolized before egress from the brain. It is concluded that the intermediate metabolism is altered by chloral hydrate administration, which occurs at the 5-hydroxyindoleacetic acetaldehyde level, similar to changes after ethanol. 18 references.

077869 Miller, Kenneth W.; Sanders-Bush, Elaine; Dingell, James V. Psychopharmacology Research Center, Department of Pharmacology, Vanderbilt University School of Medicine, Nashville, Tennessee 37203 p-Chloroamphetamine: species differences in the rate of disappearance and the lowering of cerebral serotonin. *Biochemical Pharmacology*. 20(2):500-503, 1971.

The rate of disappearance of amphetamine from the tissues of rats and mice was compared with that of its p-chlorinated derivative, to elucidate the species differences in the metabolism of p-chloroamphetamine in terms of cerebral serotonin. The drugs were given i.v.: d-amphetamine sulfate, 10mg/kg to rats, 8mg/kg to mice; d,l-p-chloroamphetamine hydrochloride, 10mg/kg to both species. Although the major pathway for the metabolism of amphetamine in rats differs from that in mice, the drug disappears at the same rate in both species. The body levels of p-chloroamphetamine declined at markedly different rates in the 2 species, and 16 hr after its administration, its presence could not be detected in brains of mice but measurable levels were found in the brains of rats. Evidence presented suggests that species differences in the metabolism of chlorinated amphetamines can explain their variations in their ability to lower cerebral serotonin in rats and mice. The importance of time response curves is stressed. 8 references.

077870 Chari-Blitron, A.; Bino, T. Israel Institute for Biological Research, Ness-Ziona, Israel Effect of Delta 1-tetrahydrocannabinol on ATPase activity of rat liver mitochondria. *Biochemical Pharmacology*. 20(2):473-475, 1971.

The effect of delta 1-tetrahydrocannabinol (THC) on ATPase activity in rat liver mitochondria was investigated. The mitochondria fractions in 0.25 M sucrose were incubated with THC at 30 degrees for 20 min. The THC was dissolved in ethanol, the controls receiving ethanol without THC. The results revealed that addition of THC to fresh liver mitochondrial fraction causes a pronounced increase in ATPase activity; it declines gradually towards higher concentrations but, even at 80 micrograms/ml, inorganic phosphate still remains well above the control level. It was also shown that addition of  $Mg^{2+}$  markedly enhances ATPase activity and causes the THC concentration of maximum activity to shift from 30 micrograms/ml to 40 micrograms/ml. The action of oligomycin, an inhibitor of mitochondrial ATPase, revealed that THC induced ATPase is completely inhibited by this agent. As reflected by its effects on ATPase activity, THC causes some disorganization of the mitochondria to a degree depending on its concentration. It is suggested that the influence of THC results from its attachment to specific phospholipidic or lipoprotein binding sites. 18 references.

077871 Akera, Tai; Brody, Theodore M.; Leeling, Norman. Department of Pharmacology, Michigan State University, East Lansing, Michigan 48823 Insecticide inhibition of Na-K-ATPase activity. *Biochemical Pharmacology*. 20(2):471-473, 1971.

The effects of several insecticides on a rat brain (Na ions + K ions)-ATPase preparation which hydrolyzed approximately 1 and 4 micromoles of ATP per mg of protein/min at 23 degrees and 37 degrees respectively, were examined. The enzyme from rat brain was prepared by methods previously described with a further purification. All insecticides and the analogs studied inhibited the (Na ions + K ions)-ATPase activity, the inhibition not being specific to the active form, p,p'-DDT. Contrary to results reported by others, no correlation was observed between the insecticidal action of the agents tested and their potency as inhibitors of the rat brain (Na ions + K ions)-ATPase activity. With respect to temperature effects, another discrepancy was observed in that no significant difference in inhibito-

ry effect of chlordane was observed at 23, 30 and 37 degrees. The results observed in this study do not necessarily rule out the possibility that (Na ions + K ions)-ATPase is a target enzyme for insecticides. The possible interpretations for the discrepancies are presented. 7 references.

077878 Yeh, S. Y.; Woods, L. A. Department of Psychiatry, College of Medicine, The University of Kentucky, Lexington, Kentucky N-demethylation of N-14C-methyl-codeine in morphine tolerant and nontolerant rats and mice. *Proceedings of the Society for Experimental Biology and Medicine*. 136(3):782-784, 1971.

A comparative study of the N-demethylation of codeine by morphine tolerant and nontolerant male and female Sprague-Dawley rats and Swiss-Webster mice showed that the N-demethylation of codeine by tolerant male rats decreased significantly as compared to nontolerant male rats, to the level of nontolerant female rats. However, in the nontolerant female rats, female mice and tolerant male mice, the process was unchanged. This study confirms other experiments which demonstrated a sex dependence in the N-demethylation of codeine, dihydromorphine, morphine, and aminopyrine in normal rats, and those which showed no decrease in the N-demethylation of aminopyrine in castrated rats treated with morphine. 20 references.

077892 Tonge, Sally R.; Leonard, B. E. Pharmacy Department, Liverpool Polytechnic, Byrom Street, Liverpool, England Hallucinogens and non-hallucinogens: a comparison of the effects on 5-hydroxytryptamine and noradrenaline. *Life Sciences (Oxford)*. 10(3):161-168, 1971.

Although the neurochemical effects of hallucinogenic drugs have been investigated and have revealed definite neurochemical patterns, it is not known whether these are attributable solely to hallucinogens. A study to discover whether other substances produce a similar pattern of neurochemical effects which could not be related with hallucinogenesis was carried out. Ephedrine, dimethoxyphenylethylamine (DMPE), and lysergic acid were selected for this study because of some of their attributes which were also found in hallucinogens; they are, however, not true hallucinogens themselves. Rats were injected with either 50mg/kg ephedrine, 100mg/kg DMPE or 1mg/kg lysergic acid by i.p. route. The results showed that ephedrine and DMPE both affected

noradrenalin concentrations in the brain, and both reduced brain dopamine. Only ephedrine produced a reduction of 5-hydroxytryptamine 60 minutes after injection. The 3 substances all showed an increase in tryptophan content after injection together with other changes in the blood. Although the 3 compounds all have effects on some of the systems affected by hallucinogens, none of them produces a pattern similar to that of the hallucinogens. 18 references.

**077902** Sofia, R. Duane; Dixit, Balwant N.; Barry, Herbert, III. Department of Pharmacology, University of Pittsburgh School of Pharmacy, Pittsburgh, Pennsylvania 15213 The effect of delta-1-tetrahydrocannabinol on serotonin metabolism in the rat brain. *Life Sciences (Oxford)*. 10(8):425-436, 1971.

Delta-1-tetrahydrocannabinol (THC) significantly altered serotonin (5-HT) metabolism in the rat brain. Whole brain levels of 5-HT were evaluated 66% over control 30 min after administration of 20mg/kg of THC. The hypothalamus plus mid-brain region and cerebellum were most affected and apparently accounted for the overall increase seen in the whole brain levels of 5-HT. Since THC did not affect monoamine oxidase activity, the increase in 5-HT was evidently not due to inhibition of its degradation. However, synthesis rate of 5-HT was significantly reduced (50%) by THC. Furthermore, pretreatment with THC retarded the rate of reserpine induced depletion of brain 5-HT. Alteration of the vesicular membrane is suggested as a possible mechanism for the effects of THC on 5-HT metabolism. 20 references. (author abstract)

**077922** Izquierdo, Ivan; Izquierdo, Juan A. Departamento de Farmacologia, Instituto de Ciencias Químicas, Universidad Nacional de Cordoba, 32 Estafeta, Cordoba, Argentina Effects of drugs on deep brain centers. In: *Annual review of pharmacology*. Palo Alto, Annual Reviews, 1971. 560 p. Vol. 11. (p. 189-208).

Methods for studying drug effects upon deep brain centers are reviewed including systemic injections, perfusion of whole brain by arterial route, injections into the cerebrospinal fluid, perfusion of localized areas, topical applications, and methods involving penetration of needles or canulae through brain tissue. Microelectrophoretic application is considered the method of choice, though it has its limitations. Total RNA content

has been recently applied to the whole brain, and the effects on self-stimulation with implanted electrodes is a useful technique. Radioautography is considered a valuable method. Central sites of action for amphetamine, nicotine, and imipramine like agents (imipramine, 3-chlor-imipramine, amitriptyline, nortriptyline) are reviewed. Injections of catecholamines into the cerebrospinal fluid and their depressant action, and the possibility that quaternary compounds may have direct central actions is explored. Drug effects in the hippocampus and the potassium theory are discussed, as well as the drug effects in this connection relative to learning and to cholinergic mechanisms. Extrahippocampal cholinergic sites of drug action include the hypothalamus, the septum and amygdala, and are reviewed with particular attention to ACh and AChE. 243 references.

**077923** Sulser, F.; Sanders-Bush, E. Psychopharmacology Research Center, Department of Pharmacology, Vanderbilt University School of Medicine, Nashville, Tennessee Effect of drugs on amines in the CNS. In: *Annual review of pharmacology*. Palo Alto, Annual Reviews, 1971. 560 p. Vol. 11. (p. 209-230).

A review of the effects of drugs on amines in the central nervous system is presented dealing with selective recent data which either support or change interpretations on the mechanisms of the action of drugs on amines, particularly catecholamines and indolealkyl amines in the brain. The estimation of the turnover rate of biogenic amines is described both by isotopic and nonisotopic methods. Recent experiments have shown that many of the central actions of amphetamine, including locomotor stimulation and stereotyped behavior, might also be mediated through catecholamines in brain. It has been suggested that the stereotyped behavior elicited by amphetamine depends on the availability of dopamine, whereas noradrenaline appears to be required for other forms of activity. The chlorinated derivatives of amphetamine elicit central and peripheral pharmacological actions which are similar to those of the parent compounds. Newer aspects of the biochemical pharmacology of tricyclic antidepressants reveal differences between the effect of a single dose and long-term administration on the turnover of noradrenaline in the brain. Drug interactions involving biogenic amines have led to the formulation of various hypotheses regarding imipramine like antidepress-

sant action. The role of serotonin is discussed in relation to tolerance to morphine and physical dependence. Other psychotropic drugs that affect the availability of amines in the CNS are mentioned. 239 references.

**077989** Bindler, E. H.; Wallach, M. B.; Gershon, S. Department of Psychiatry, New York University Medical Center, 550 First Avenue, New York, New York 10016 Effect of lithium on the release of 14C-norepinephrine by nerve stimulation from the perfused cat spleen. *Archives Internationales de Pharmacodynamie et de Therapie (Gand)*. 190(1):150-154, 1971.

The effect of Li ion, used in the treatment of manic-depressive illness, on the release of 14C-catechols from the isolated and perfused cat spleen by splenic nerve stimulation was examined. Li ion added to the perfusion medium following the labeling of the spleen caused a reduction in the output of 14C-labeled catechols during periods of nerve stimulation. These results support previous findings that norepinephrine released by stimulation of the splenic nerve is derived from adrenergic nerve endings. 13 references. (author abstract modified)

**077990** Ellison, T.; Okun, R.; Silverman, A.; Siegel, M. Riker Laboratories, Northridge, California Metabolic fate of amphetamine in the cat during development of tolerance. *Archives Internationales de Pharmacodynamie et de Therapie (Gand)*. 190(1):135-149, 1971.

The metabolic fate and tissue distribution of d-3H-amphetamine was investigated in amphetamine tolerant and nontolerant cats. Total recovery of radioactivity from the urine in 5 days revealed no statistically significant differences. The urinary metabolites of amphetamine were quantified by paper strip chromatography and were identified as unchanged amphetamine, hippuric acid, free and conjugated (etheral sulfate) of p-hydroxy-amphetamine. Also, the presence of norephedrine was tentatively identified. Tolerant cats excreted significantly more amphetamine and less metabolites than their controls. In tissue distribution studies differences in the rates of drug disappearance of total radioactivity were observed in the liver, lungs, cerebrum, cerebellum, medulla, thalamus and pons between the 1 and 4 hr test periods. The overall distribution of radioactivity was the same with no apparent sites of high accumulation. 11 references. (author abstract)

**078012** Fulginiti, S.; Orsingher, O. A. Departamento de Farmacologia, Instituto de Ciencias Quimicas, Universidad Nacional de Cordoba, Estafeta 32, Cordoba, Argentina Effects of learning, amphetamine and nicotine on the level and synthesis of brain noradrenaline in rats. *Archives Internationales de Pharmacodynamie et de Therapie (Gand)*. 190(2):291-298, 1971.

A conditioning session in a shuttle-box (100 trials, 30 sec inter-trial intervals) did not modify the noradrenaline (NA)-levels in hypothalamus and hemispheres of rats when compared to controls. Animals presented only with unconditioned stimuli (100 electric shocks at 30 sec interval) showed a significant decrease in the NA levels in both brain structures. Moreover, the conditioning session increased the rate of synthesis of NA in whole brain, as measured by the injection of tyrosine-C14. DL-amphetamine sulphate (2mg/kg) and nicotine (0.2mg/kg) did not provoke appreciable modifications in the rate of conversion of tyrosine-C14 to brain NA when animals were killed 80 min after treatment; when assayed at 20 min, amphetamine, but not nicotine, evidenced a marked increase in the specific activity of NA. Possible causes for the lack of effect of nicotine are discussed. 31 references. (author abstract)

**078017** Taylor, Kenneth M.; Snyder, Solomon H. Department of Pharmacology and Experimental Therapeutics, Johns Hopkins University School of Medicine, Baltimore, Maryland 21205 Brain histamine: rapid apparent turnover altered by restraint and cold stress. *Science*. 172(3987):1037-1039, 1971.

Histamine content of rat brain was lowered quickly by inhibitors of histidine decarboxylase, suggesting that a portion of brain histamine turns over rapidly. Restraint and exposure to cold also reduced brain histamine levels and markedly augmented its formation in the hypothalamus. These rapid changes suggest that stores of brain histamine are quite labile. Endocrine manipulations and various drugs failed to alter hypothalamic histamine levels. 27 references. (author abstract modified)

**078164** Jarowski, Charles I.; Ward, Charles O. Department of Pharmaceutics, St. John's University, College of Pharmacy, Jamaica, New York Effect of tryptophan on toxicity and depressant effects of barbiturates and ethanol in rats. *Toxicology and Applied Pharmacology*. 18(3):603-606, 1971.

When the fasting plasma amino acid profile of Sprague-Dawley rats was determined chromatographically, it was found that, of the essential amino acids, 1-tryptophan and 1-methionine were present in the lowest concentration. Using 1-tryptophan because of its reported antidepressant effects, it was found that pretreatment of rats with this amino acid decreased the LD50 and prolonged the sleeping times and immobility times previously determined for pentobarbital, hexobarbital, and ethanol. It is concluded that acute administration of 1-tryptophan will not reverse the toxicity of these CNS depressants. 11 references. (author abstract)

**078165** Reves, Joseph G.; Newman, Walter H. Department of Anesthesia, University of Alabama Medical Center, Birmingham, Alabama 35233 Blood volume following acute ethyl alcohol ingestion in dogs. *Toxicology and Applied Pharmacology*. 18(3):660-664, 1971.

There are conflicting reports regarding blood volume change following alcohol administration. Variations have been reported which are of sufficient magnitude that they could influence any acute circulatory study in which large volumes of alcohol are administered. In these experiments a simple method utilizing a single injection of radioiodinated serum albumin (RISA) was devised. This technique minimizes errors inherent in methods employing multiple injections of RISA. In 8 dogs, hematocrit, blood alcohol, and plasma volume were determined at intervals following oral administration of 2g/kg ethanol (40%v/v in saline) or an equal volume of saline. Blood alcohol peaked at 152 mg/100 ml 3 hr following ingestion. During the 6 hr experimental period there were no significant alterations in hematocrit or plasma volume in either the saline or alcohol treated dogs. These data support the view that blood volume fluctuations are inconsequential in acute cardiovascular experiments performed during 6 hr following ingestion of ethyl alcohol as described above. 16 references. (author abstract)

**078949** Angel, Charles; Burkett, Mary L. Veterans Administration Center, Psychiatry Service (151), Biloxi, Mississippi Effects of hydrocortisone and cycloheximide on blood-brain barrier function in the rat. *Diseases of the Nervous System*. 32(1):53-58, 1971.

The effects of hydrocortisone and cycloheximide on blood-brain barrier function in the rat

are investigated by establishing the conditions necessary for reestablishment of normal blood-brain barrier function in the adrenalectomized animal (as measured by accumulation of cocaine in the brain). The variables affecting integrity of the barrier which were studied are: interactive effects of time after adrenalectomy, treatment with a protein synthesis inhibitor, and length of treatment with the steroids. The data accumulated in this study support the following conclusions: 1) bilateral adrenalectomy significantly altered blood-brain barrier permeability to cocaine, resulting in increased accumulation in the brain tissue of the rat. Reestablishment of integrity of the blood-brain barrier was accomplished by injection of hydrocortisone for 5 days at the rate of 20mg/kg per day; 2) when cycloheximide (an inhibitor of protein synthesis at the stage of peptide elongation) was administered to an adrenalectomized animal, the drug increased barrier penetration by cocaine; however, pretreatment of the adrenalectomized subject with hydrocortisone in the dosage mentioned above reduced the barrier breakdown associated with cycloheximide pretreatment; 3) pretreatment of the intact rat with hydrocortisone did not significantly affect cocaine accumulation in brain tissue; however, it did prevent cycloheximide induced penetrability of the blood-brain barrier system. 18 references. (Author abstract modified)

**079063** Fennessy, M. R.; Rattray, J. F. Department of Pharmacology, University of Melbourne, Parkville, Victoria 3052, Australia Cardiovascular effects of intravenous morphine in the anesthetized rat. *European Journal of Pharmacology (Utrecht)*. 14(1):1-8, 1971.

The effects of morphine on the blood pressure and heart rate of the urethane anesthetized rat are investigated, both in untreated animals and rats subjected to various drug pretreatments and surgical procedures. The first intravenous injection of morphine in the anesthetized rat produced a marked depressor response in doses from 0.01 to 100mg/kg. This response appears to be mediated reflexly, the afferent pathways being in the vagus nerves and the resulting efferent effects consisting of a combination of vagal bradycardia and decreased sympathetic vasomotor tone. With high doses, direct cardiodepressant actions of morphine may contribute to the fall in blood pressure. Tachyphylaxis to the depressor effect developed slowly when repeated low doses were given, but

very rapidly with high doses. The second injection of morphine in a dose of 10mg/kg or more produced a pressor effect which was due mainly to increased sympathetic tone. There is also evidence of direct peripheral release of catecholamines. 21 references. (Author abstract modified)

079430 Kubena, Robert K.; Perhach, James L., Jr.; Barry, Herbert, III. Department of Pharmacology, School of Pharmacy, University of Pittsburgh, Pittsburgh, Pennsylvania 15213 Corticosterone elevation mediated centrally by delta 1-tetrahydrocannabinol in rats. *European Journal of Pharmacology (Utrecht)*. 14(1):89-92, 1971.

Measurements of plasma corticosterone are used to demonstrate that the pituitary - adrenal activation caused by delta-1-tetrahydrocannabinol (delta-1-THC) is centrally rather than peripherally mediated. Assays of peripheral plasma corticosterone, 45 min after intraperitoneal injection of 2 to 16mg/kg delta-1-THC showed strong pituitary - adrenal activation which persisted undiminished after a week of daily doses. Blockage of the steroid activation, by hypophysectomy or by pretreatment with pentobarbital and morphine, indicated a hypothalamic or other central locus of this action of delta-1-THC. 17 references. (Author abstract modified)

079663 Werner, I.; Peterson, G. R.; Shuster, L. Department of Biochemistry and Pharmacology, Tufts University School of Medicine, 136 Harrison Avenue, Boston, Massachusetts 02111 Choline acetyltransferase and acetylcholinesterase in cultured brain cells from chick embryos. *Journal of Neurochemistry (London)*. 18(1):141-151, 1971.

Changes in total activity and specific activity of choline acetyltransferase and acetylcholinesterase in culture brain cells from chick embryos are studied. Dissociated cells from brains of 7 day chick embryos were grown in primary culture for as long as 20 days. Many of the plated cells grew out long processes. Others, which proliferated rapidly, formed a confluent layer of flat cells after 4 to 6 days. Total deoxyribonucleic acid and protein increases 5 fold and activity of choline acetyltransferase (EC2.3.1.6) increased about 40 fold in 20 days. Acetylcholinesterase (EC3.1.1.7) increased 3 fold by the fourth day of culture and then declined. The pattern of increase for choline acetyltransferase was similar to that for the in vivo development of the enzyme. L-Thyroxine,

cyclic adenosine-3',5'-monophosphate or theophylline promoted increased levels of both enzymes by 30 to 200%. L-Thyroxine also increased the activity of choline acetyltransferase and an increase in the activity of acetylcholinesterase in comparison to control activities. The addition of M-morphine or cocaine produced a 30% elevation in the activity of choline acetyltransferase, but this effect could be mimicked with equimolar concentrations of ammonium ion. 30 references. (Author abstract modified)

080632 Ott, T.; Schmitt, M.; Pohle, W.; Matthies, H. Institute of Pharmacology and Toxicology, Magdeburg Medical School, Magdeburg, Germany The effect of methamphetamine on the norepinephrine and 5-hydroxytryptamine contents in eleven rat brain regions. *Brain Research (Amsterdam)*. 25(1):171-178, 1971.

The effect of methamphetamine (MA) on the norepinephrine (NE) and 5-hydroxytryptamine (5-HT) contents in 11 rat brain regions is investigated. It was found that MA when administered in dosage of 5mg/kg, affected the NE content of the different brain regions in 3 ways: 1) there was a decrease in the content in the olfactory bulb, thalamus and hypothalamus; 2) there were no statistically significant changes in the cerebral cortex, hippocampus, cerebellum, pons, medulla oblongata and striatum; and 3) there was an increase in the content within the tegmentum. An attempt has been made to explain these results in the light of morphological aspects. The decrease of NE content in some brain regions seems to reveal a depleting action of MA in noradrenergic nerve endings while the increase in the tegmentum suggests an enhanced synthesis in the soma through a positive feedback mechanism. There is no evidence for a direct action of MA on serotonergic structures. 27 references. (Author abstract modified)

082707 Christensen, H. D.; Freudenthal, R. I.; Gidley, J. T.; Rosenfeld, R.; Boegli, G.; Testino, L.; Brine, D. R.; Pitt, C. G.; Wall, M. E. Chemistry and Life Sciences Laboratory, Research Triangle Institute, Research Triangle Park, North Carolina 27709 Activity of delta-8- and delta-9-tetrahydrocannabinol and related compounds in the mouse. *Science*. 172(3979):165-167, 1971.

delta-9-Tetrahydrocannabinol (delta-9-THC) is considered responsible for most of the

psychotomimetic effects of hashish and marihuana. transdelta-9-Tetrahydrocannabinol is the major natural THC, although small amounts of delta-8-THC also occur. The 11-hydroxy metabolites of delta-8- and delta-9-tetrahydrocannabinol are more active than the parent compounds when administered to mice by either the intravenous or intracerebral route. Both delta-8- and delta-9-tetrahydrocannabinol are rapidly and extensively metabolized by the liver and not by the brain. The hypothesis that the 11-hydroxy metabolites may be the active form of tetrahydrocannabinol is discussed. 13 references. (author abstract modified)

082720 Boyd, Eugene S.; Boyd, Eleanor H.; Muchmore, John S.; Brown, Lawrence E. Department of Pharmacology and Toxicology, 260 Crittendon Boulevard, Rochester, New York 14620 Effects of two tetrahydrocannabinols and of pentobarbital on cortico-cortical evoked responses in the squirrel monkey. *Journal of Pharmacology and Experimental Therapeutics*. 176(2):480-488, 1971.

The effects of 2 tetrahydrocannabinols (delta-8-THC and delta-9-THC) were studied by stimulating primary somatosensory cortex in the cerveau isole squirrel monkey and recording the responses in frontal lobe polysensory areas ipsilateral and contralateral to the stimulus, and in the contralateral parietal lobe primary somatosensory area, homotopic to the stimulus. Low doses of both THC's increased the amplitudes of the responses and higher doses generally decreased them. Low doses of pentobarbital also produced increases in amplitude and higher doses decreased or abolished the responses. The THC's only slightly decreased the facilitation seen in control recovery cycles, but even low doses of pentobarbital markedly reduced or abolished it. Pentobarbital had its usual effects on the electrocorticogram, i.e., a dose dependent flattening with spindling at intermediate doses, but the THC's caused spiking and, at high doses, occasionally a spike and wave pattern. It is suggested that the increased responsiveness of cortical areas produced by the THC's without the concomitant decrease of recovery produced by pentobarbital may be related to the changes in sensory perception produced by the THC's. 19 references. (author abstract)

082721 Uretsky, N. J.; Simmonds, M. A.; Iversen, L. L. Childrens Hospital Medical Center, Neurology Research Laboratory, 300 Longwood Avenue,

Boston, Massachusetts Changes in the retention and metabolism of 3H-1-norepinephrine in rat brain in vivo after 6-hydroxydopamine pretreatment. *Journal of Pharmacology and Experimental Therapeutics*. 176(2):489-496, 1971.

Rats were injected intraventricularly with 3H-1-norepinephrine (NE) 3 weeks after intraventricular injections of 6-hydroxydopamine (6-OHDA), which cause a selective degeneration of catecholamine nerve terminals in the central nervous system. There was a marked decrease in the retention of 3H-NE in the brains of treated animals. This was associated with an increase in 3H-deaminated metabolites and 3H-nor-metanephrine. Reserpine treatment reduced the retention of 3H-NE even further in 6-OHDA treated rats, the percent reduction being similar to that in reserpine treated control rats. The retention of 3H-NE was significantly reduced in hypothalamus and striatum but not in the pons - medulla region of 6-OHDA treated brains. The initial rates of uptake of 3H-NE into slices prepared from these 3 brain regions were reduced by 6-OHDA, suggesting a loss of NE uptake sites. The subcellular distribution (particulate/supernatant ratio) of 3H-NE retained in the hypothalamus, striatum and pons - medulla of treated animals was similar to that of controls. The rate constant of disappearance of 3H-NE was increased by 6-OHDA treatment in striatum and pons - medulla, although the rate of NE turnover was much lower in all brain regions of treated animals than in controls. These results support the view that intraventricularly injected 3H-NE is selectively accumulated by catecholamine containing neurons. The 3H-NE that is retained by the brains of 6-OHDA treated animals is probably located in the catecholamine neurons that survived the degenerative effects of 6-OHDA treatment. 23 references. (author abstract)

082727 Cheney, D. L.; Goldstein, A.; Algeri, S.; Costa, E. Department of Pharmacology, Stanford University, Stanford, California 94305 Narcotic tolerance and dependence: lack of relationship with serotonin turnover in the brain. *Science*. 171(3976):1169-1170, 1971.

Tolerance and physical dependence was produced in mice by the implantation and retention of a specially prepared 75mg morphine pellet. Tolerance to opiate induced running activity was measured after the injection of levorphanol (20mg/kg) in the experimental animals as com-

pared to control animals similarly injected. The physical dependence was determined by the use of naloxone, the morphine antagonist, to precipitate the jumping syndrome. Serotonin turnover was measured in male Swiss Webster mice by a direct method following an i.v. injection of tritiated tryptophan. The specific radioactivities of both tryptophan and serotonin were found to be consistently higher in the tolerant dependent mice than in the control mice. Although this implies a more rapid transport of the amino acid from the blood into the brain, it does not relate to serotonin turnover. No significant difference in the conversion index between tolerant dependent mice and control mice was found, and the rate of serotonin synthesis and degradation was unchanged in the tolerant dependent mice. 15 references.

**082733 Klausner, Howard A.; Dingell, James V.** Department of Pharmacology, Vanderbilt University School of Medicine, Nashville, Tennessee The metabolism and excretion of delta9-tetrahydrocannabinol in the rat. *Life Sciences (Oxford)*. 10(1):49-59, 1971.

An investigation of the fundamental aspects of the fate of synthetic delta-9-tetrahydrocannabinol (THC) in rats is described. Results confirmed the findings that THC is excreted almost completely in rat feces as more polar metabolites, and that it disappears from the tissues of rats in a biphasic fashion. Labeled THC of 95% purity was administered to male rats i.v. in about 0.5ml of a mixture of 30% propylene glycol and 70% rat serum. Homogenates of rats killed at various times after administration of THC were assayed. The labeled THC was also added to the perfusion medium in an experiment using the isolated perfused rat liver. It was found that about 60% of the radioactivity administered to rats was excreted in urine and feces 120 hours after the administration of <sup>14</sup>C THC (4mg/kg, i.v.). Only about 10% of the radioactivity was excreted in the urine. THC is very rapidly metabolized in rats, but a considerable fraction is metabolized at a very slow rate, which suggests a cumulative effect. The affinity for lung tissue, it must be noted, is shared by a large group of lipid soluble drugs. Results of the isolated liver perfusion confirmed the extensive hepatic metabolism of THC and its metabolites, and the enterohepatic circulation of the latter. 11 references.

**082756 Kuriyama, K.; Sze, P. Y.** Department of Psychiatry, State University of New York, Downstate Medical Center, Brooklyn, New York Blood-brain barrier to H3-gamma-aminobutyric acid in normal and amino oxyacetic acid-treated animals. *Neuropharmacology (Oxford)*. 10(1):103-108, 1971.

Distribution of radioactivity was examined in various tissues following the administration of H3-gamma-aminobutyric acid, injected i.p. to adult mice and i.v. to adult rabbits. In mice treated with amino oxyacetic acid, a potent inhibitor of gamma-aminobutyrate-alpha-ketoglutarate transaminase, no significant amount of radioactivity was found in brain after i.p. injection of labeled gamma-aminobutyric acid. After i.v. injection of labeled gamma-aminobutyric acid to rabbits similarly treated, small amounts of radioactivity did appear in liver and blood, but electrophoretic characterization showed that the label was not in gamma-aminobutyric acid itself but in other metabolites. In untreated mice and rabbits, in which metabolism of gamma-aminobutyric acid occurred normally, the label from injected H3-gamma-aminobutyric acid was found by electrophoresis to be distributed over several major metabolites. The radioactivity that seemed to move into or from brain in these untreated animals was largely attributable to these labeled metabolites. These labeled derivatives of gamma-aminobutyric acid, at present unidentified except glutamine, were discussed. The present results demonstrate that the blood-brain barrier in adult animals is impermeable to both blood-borne gamma-aminobutyric acid and endogenous cerebral gamma-aminobutyric acid. 7 references. (author abstract)

**082760 Zakusov, V. V.; Ostrovskaja, R. U.** The Institute of Pharmacology and Chemotherapy, Academy of Medical Sciences of the U.S.S.R., Moscow, U.S.S.R. The influence of hypnotics and tranquilizers on some evoked cortical potentials. *Neuropharmacology (Oxford)*. 10(1):1-8, 1971.

The influence of hypnotics (sodium thiopentone and sodium gamma-oxybutyrate) and tranquilizers (chlorpromazine and Stelazine) on the direct cortical, transcallosal responses in the cortex and on responses in the bulbar pyramids has been investigated in acute experiments on 150 nonanesthetized curarized rabbits and on 20 cats anesthetized with chloralose. It was found that both the narcotics under investigation changed the

positive components of the direct cortical response more than the negative ones. The transcallosal response was generally affected more by the drugs than the direct cortical response. These changes may have been caused by the direct cortical effect of the substances, not merely by the blockade of the afferent subcortical flow. Oxybutyrate and thiopentone induced similar changes, but oxybutyrate did not elicit a phase of deep depression of the potentials. The pyramidal response to peripheral stimulation showed high sensitivity to both the narcotics. After comparing the changes in this response with those in the primary cortical and antidromic pyramidal one, and in the intercortical response arising in the motor cortex after stimulation of the I somatosensory area, it was suggested that the narcotic drugs under investigation exerted a pronounced influence on the intercortical associative connections. Chlorpromazine and Stelazine, in doses not causing a hypotensive effect, did not greatly affect the direct cortical, transcallosal and associative pyramidal responses. 27 references. (author abstract)

082761 Ho, Beng T.; Fritch, G. Edward; Noel, Michael B.; McIsaac, William M. Texas Research Institute of Mental Sciences, Houston, Texas 77025 Hydroxyindole-O-methyltransferase V: effects of substituents on hydrolysis of N-acyltryptamines in rats. *Journal of Pharmaceutical Sciences*. 60(4):634-635, 1971.

The effects of substituents on the hydrolysis of the amide linkage were studied in rats with 5 tritium labeled, substituted N-benzoyltryptamines and N-phenylacetyltryptamines. In the blood, amides of phenylacetic acid were hydrolyzed at a faster rate than those of benzoic acid. Methylation of the amide nitrogen facilitated hydrolysis rather than retarding it. These 5 inhibitors of hydroxyindole-O-methyltransferase accumulated in pineal glands 15 min after i.v. injection. Substitution of the chlorine atom on 3- and 4-positions of the phenyl ring decreased the transport into the pineal glands but retarded the metabolism in the organ. Of the compounds studied, N-phenylacetyltryptamine demonstrated the longest duration in the rat pineal gland. 4 references. (author abstract)

082765 Ko, G. K. W.; Hosein, E. A. Department of Biochemistry, McGill University, Montreal 110, Canada The metabolic fate of pentyleneetetrazol in the rat. *Canadian Journal of Physiology and Pharmacology (Ottawa)*. 49(4):356-365, 1971.

Pentyleneetetrazol administered to rats was metabolized to a derivative which was excreted in the urine along with unchanged pentyleneetetrazol. Pentyleneetetrazol and its metabolite can be separated on paper chromatograms developed in water saturated isobutanol. The substances, however, are chromatographically inseparable with water as the mobile phase. Distribution of tritium labelled pentyleneetetrazol in the rat after i.p. injection indicated that it was readily taken up by the liver. Perfusion of the isolated rat liver with citrated blood containing tritiated pentyleneetetrazol demonstrated that the metabolite was formed in the intact liver. Formation of the metabolite was inhibited by SKF 525A. The metabolite was isolated from the urine of rats treated with pentyleneetetrazol on an Amberlite XAD-2 column and elemental analysis showed it to be a sulfur containing derivative. 18 references. (author abstract)

082782 Gerber, Nicholas; Lynn, Robert; Holcomb, Robert; Weller, William L.; Bush, Milton T. Department of Pharmacology, Vanderbilt University, School of Medicine, Nashville, Tennessee 37203 The metabolism of hexobarbital in mice and methodology for isolation and quantitation of its metabolites in vivo and in vitro. *Journal of Pharmacology and Experimental Therapeutics*. 177(1):234-245, 1971.

The biological half-life ( $t/2$ ) of hexobarbital measured by whole body analysis in CFW and ICR mice is 15 min. The  $t/2$  in A/HeJ mice is 28 min. Analyses of mice at 1, 15 and 45 min after i.v. injection of 1mg of hexobarbital indicate that the drug is converted to 2 major metabolites, 3-hydroxyhexobarbital and 3-ketohexobarbital. In vitro studies with the supernatant fraction of mouse liver containing the microsomes obtained after centrifugation at 9000 X g for 20 min show that 3-hydroxyhexobarbital and 3-ketohexobarbital account for most of the hexobarbital metabolized in all 3 strains of mice. Pretreatment of mice with phenobarbital, 80mg/kg/day for 4 days, resulted in a 2 fold increase in the rate of formation of both these metabolites in vitro. The ratio of hydroxyhexobarbital and ketohexobarbital was the same at 60 min in incubations of liver microsomes from control and pretreated mice. The identity of the metabolites has been established by counter-current distribution, and mass spectroscopy with synthetic reference compounds. 26 references. (author abstract)

082783 Besson, M. J.; Cheramy, A.; Glowinski, J. Groupe NB, College de France, 11 Place Marcelin Berthelot, Paris, Se, France Effects of some psychotropic drugs on dopamine synthesis in the rat striatum. *Journal of Pharmacology and Experimental Therapeutics*. 177(1):196-205, 1971.

Estimation of dopamine (DA) synthesis in the rat striatum was performed by measuring, as a function of time, both the 3H-H<sub>2</sub>O which was formed as a result of L-3,5,3H-tyrosine hydroxylation to 3H-dopa, and 3H-DA accumulation. Striatal slices were incubated for various time periods up to 30 min with L-3,5,3H-tyrosine and the 'total' 3H-H<sub>2</sub>O and 3H-DA accumulated in slices and incubating medium were measured. The rate of 3H-H<sub>2</sub>O formation paralleled the rate of 3H-DA accumulation in normal rats indicating that 3H-DA newly synthesized is protected from enzymatic inactivation. alpha-Methyl-p-tyrosine inhibited similarly 3H-H<sub>2</sub>O and 3H-DA accumulation. Reserpine pretreatment inhibited storage as well as synthesis of DA; 3H-DA and 3H-H<sub>2</sub>O accumulation were diminished by 70% and 35%, respectively. In striatal slices of rats pretreated with a neuroleptic, thioproperazin, 3H-H<sub>2</sub>O and 3H-DA accumulation were both increased by 70%. On the other hand, amphetamine administered in vivo or in vitro decreased both 3H-H<sub>2</sub>O and 3H-DA (40%). Initial rates of DA synthesis were estimated for increasing concentrations of L-3,5-3H tyrosine in the incubating medium. Km and Vmax for DA synthesis in striatal slices of normal and amphetamine pretreated rats were determined by graphic analysis with the method of Lineweaver and Burk. This kinetic analysis revealed that amphetamine inhibited DA synthesis by noncompetitive inhibition for tyrosine. This study demonstrated that changes in biosynthetic regulation of DA in the striatum induced by psychotropic drugs can be estimated accurately and distinguished from effects on other DA metabolic processes. 24 references. (author abstract)<sup>9</sup>

082784 Johnson, David G.; Thoa, Nguyen B.; Kopin, Irwin J. Building 10, Room 2D-46, National Institute of Mental Health, Bethesda, Maryland 20014 Inhibition of norepinephrine biosynthesis by chlorpromazine in the guinea-pig vas deferens. *Journal of Pharmacology and Experimental Therapeutics*. 177(1):146-154, 1971.

Chlorpromazine decreased levels of norepinephrine-14C synthesized from tyrosine-

14C in the guinea-pig vas deferens in vitro. The percent inhibition was unchanged during acceleration of the rate of synthesis induced by stimulation of the hypogastric nerve. Synthesis of norepinephrine-3H from 3,4-dihydroxyphenylalanine-3H and alpha-methyloctopamine-3H from alpha-methyltyramine-3H were also inhibited by chlorpromazine. Cocaine inhibited to a lesser extent norepinephrine-14C synthesis during stimulation and decreased the formation of alpha-methyloctopamine-3H from alpha-methyltyramine-3H. Neither chlorpromazine nor cocaine inhibited tyrosine hydroxylase or dopamine-beta-hydroxylase activities measured in tissue homogenates. Although both chlorpromazine and cocaine diminished the uptake of norepinephrine-3H, neither drug influenced the proportion of the various metabolites of norepinephrine-3H found in the vasa deferentia. The drugs had no effect on the amounts of norepinephrine-14C formed from tyrosine-14C found in the incubation medium after nerve stimulation. These results suggest that chlorpromazine inhibits norepinephrine biosynthesis by blocking dopamine uptake into the nerve granules and that this inhibition remains proportionally the same during the increased rate of catecholamine synthesis obtained by nerve stimulation. 31 references. (author abstract)

082786 Lemberger, Louis; Axelrod, Julius; Kopin, Irwin J. Laboratory of Clinical Science, National Institute of Mental Health, Building 10, Room 2D-46, Bethesda, Maryland 20014 The disposition and metabolism of tryptamine and the in vivo formation of 6-hydroxytryptamine in the rabbit. *Journal of Pharmacology and Experimental Therapeutics*. 177(1):169-176, 1971.

Tryptamine-14C was administered to rabbits pretreated with the monoamine oxidase inhibitor pheniprazine. the disposition and metabolism of the radioactive amine was studied. Tryptamine-14C was found to be present in highest concentration in lung and in lowest concentration in heart and brain. The tissue levels of tryptamine-14C declined exponentially with a half-life of 35 min. Three hours after the administration of tryptamine-14C, kidney, plasma and duodenum had the highest levels of total radioactivity. In lung, over 50% of the total radioactivity was present as tryptamine, in marked contrast to other tissues examined. Polar basic metabolites were present in highest concentrations in duodenum, kidney and spleen. When reserpine (1mg/kg i.m.) was ad-

ministered 1 hr after tryptamine-14C, less radioactivity was found in all tissues except kidney and ileum, when compared to control rabbits. Reserpine decreased the tryptamine and polar basic metabolite concentration in several tissues while markedly increasing the levels of polar acidic metabolites in kidney and ileum. 6-Hydroxytryptamine was isolated chromatographically from homogenates of kidney and ileum as well as from urine. The presence of 6-hydroxytryptamine in these biologic materials was increased by enzymatic hydrolysis of its conjugates with sulfatase and beta-glucuronidase. In addition, 6-hydroxyindoleacetic acid, the major metabolic product of 6-hydroxytryptamine, was isolated from urine by chromatographic techniques. 24 references. (author abstract)

082788 Satoh, Masamichi; Takagi, Hiroshi. Department of Pharmacology, Kyoto University, Kyoto, Japan Effect of morphine on the pre- and postsynaptic inhibitions in the spinal cord. *European Journal of Pharmacology (Amsterdam)*. 14(2):150-154, 1971.

The effect of morphine on spinal inhibitory mechanisms was investigated in intact and spinal cats. A relatively small dose (5mg/kg) of morphine facilitated postsynaptic inhibition of the monosynaptic reflex in intact cats, but not in spinal cats. This result suggested that small doses of morphine may primarily facilitate the supraspinal inhibitory system from which the descending inhibitory effect is derived. In spinal cats, however, large doses (10mg/kg) of morphine facilitated postsynaptic inhibition. Presynaptic inhibition of the monosynaptic reflex or the dorsal root potential was not augmented by morphine. On the basis of analogy of synaptic activities between the motoneuron and the sensory neuron, it was suggested that enhancement by morphine of the central descending inhibitory influences on the spinal sensory transmission may be exerted postsynaptically. 17 references. (author abstract)

082791 Hug, C. C.; Oka, T. Department of Pharmacology, University of Michigan Medical School, Ann Arbor, Michigan 48104 Uptake of dihydromorphine-3H by synaptosomes. *Life Sciences (Oxford)*. 10(4):201-213, 1971.

Tritium labeled dihydromorphine (DHM-3H) was accumulated in vitro by the synaptosomal fraction (nerve endings) of rat cerebral cortex. Particles derived from nerve endings by osmotic

shock exhibited a higher concentration of DHM-3H than did other subcellular fractions of brain when the isolated fractions were incubated with the drug in vitro. Nalorphine in large concentrations reduced the uptake of DHM-3H by subcellular fractions from nontolerant and morphine tolerant rats. The uptake of DHM-3H by nerve endings was attributed to a binding phenomenon, although an active transport process may provide the drug an access to the binding sites in the intact tissue. The identification of specific sites and types of interaction of narcotic analgesics with nervous tissue will facilitate studies of the nature of narcotic analgesic receptors, increase the understanding of the interactions of narcotic analgesics and their antagonists, and possibly provide clues to the cellular mechanisms affected by these drugs. 36 references. (author abstract modified)

082792 Meek, James L.; Fuxe, Kjell. National Institute of Mental Health, Saint Elizabeth's Hospital, WAW Building, Washington, D. C. 20032 Serotonin accumulation after monoamine oxidase inhibition. *Biochemical Pharmacology*. 20(3):693-706, 1971.

The rate of synthesis of serotonin (5-HT) in rat brain and spinal cord was determined by inhibiting monoamine oxidase and measuring the resulting accumulation of 5-HT. The location of this 5-HT was examined using fluorescence histochemistry. No alteration of accumulation was seen when the flow of impulses in serotonergic nerve fibers in the spinal cord was decreased by sectioning. The accumulation was also unaltered when the animals were treated with several drugs that reduce 5-HT turnover: LSD, psilocybin and chlorimipramine. These results support previous suggestions that normal control of synthesis of 5-HT by end-product inhibition or impulse controlled feedback does not function in rats treated with a MAO inhibitor. The accumulation of 5-HT in brain was reduced when the animals were treated with N,N-dimethyltryptamine, alpha-ethyltryptamine, p-methoxy amphetamine or p-chloromethamphetamine after receiving a monoamine oxidase inhibitor. The same effect also occurred in both intact and transected spinal cords. These drugs also caused the appearance of extraneuronal 5-HT fluorescence. These effects arose mainly from release by these latter drugs of 5-HT which was not stored in granules. p-Chloromethamphetamine was also seen to deplete 5-HT from the granular stores of normal animals.

p-Methoxyamphetamine, p-chloromethamphetamine and alpha-ethyltryptamine strongly potentiated the hindlimb extensor reflex in spinal rats whose endogenous 5-HT stores had been depleted. These drugs seem to directly stimulate the central 5-HT receptors involved in this reflex. 39 references. (author abstract)

082793 Borella, Luis E.; Herr, Ferenc. Department of Pharmacology, Ayerst Research Laboratories, Montreal, Canada Effect of ammonium chloride on the potentiation of amphetamine by psychotropic drugs in the rat. *Biochemical Pharmacology*. 20(3):589-595, 1971.

The effect of acidification of the urine on the potentiation of amphetamine by imipramine, butriptyline and chlorpromazine was investigated in the rat. Urine was acidified by administering ammonium chloride (500mg/kg p.o.). Amphetamine, imipramine, butriptyline and chlorpromazine were injected i.p. CNS stimulation was measured in jiggle cages. Amphetamine and p-hydroxyamphetamine excretion in the urine were determined 4 hr after administration of the drugs. Ammonium chloride increased the rate of urinary excretion of amphetamine and shortened the intensity and the duration of amphetamine hypermotility. These findings correlated with lower levels of brain amphetamine. In rats treated with the combinations of amphetamine with imipramine, butriptyline or chlorpromazine, ammonium chloride abolished the potentiation and prolongation of amphetamine effects. The effect of ammonium chloride on amphetamine excretion and brain levels in these groups was similar to that observed in animals treated with amphetamine alone. It is suggested that ammonium chloride blocked the potentiation of amphetamine stimulation by the psychotropic agents by promoting a more rapid excretion of amphetamine. 21 references. (author abstract)

082825 Thierry, A. M.; Blanc, G.; Glowinski, J. Groupe NB, Laboratoire de Biologie Moléculaire, Collège de France, Paris, France Dopamine-norepinephrine: another regulatory step of norepinephrine synthesis in central noradrenergic neurons. *European Journal of Pharmacology (Amsterdam)*. 14(3):303-307, 1971.

The changes in the norepinephrine (NE)/dopamine (DA) ratio after alpha-methyl-tyrosine(alpha-MpT) indicated that DA stored in

NE terminals of the cortex was used for NE formation in saline or thiopropazine treated rats. The possibility for NE to be synthesized from stored DA may explain the faster disappearance of NE observed in this study. The slower NE disappearance observed after alpha-MpT than after FLA 63 is explained by the regulating role of the last step of NE synthesis. 18 references. (author abstract modified)

082827 Goldstein, Dora B.; Pal, Nandita. Department of Pharmacology, Stanford University School of Medicine, Stanford, California 94305 Alcohol dependence produced in mice by inhalation of ethanol: grading the withdrawal reaction. *Science*. 172(3980):288-290, 1971.

A model whereby intoxicating blood levels of ethanol are maintained for several days in mice by inhalation of the vapor was used to study the withdrawal reaction of the addicting drug. Pyrazole, an inhibitor of alcohol dehydrogenase and alcohol elimination was used (1mmole/kg) to stabilize blood alcohol levels. Twenty four hours after the last dose of pyrazole, the mice were removed from their vapor chambers and assessed for withdrawal symptoms for the next 14 hours. A scoring system for grading reactions is presented. The maximum intensity of the withdrawal syndrome occurred at the time alcohol disappeared from the blood and the syndrome slowly regressed over the next 24 hours. Physical dependence to alcohol was shown to require only 2 days using the inhalation procedure outlined and this technique is suggested in physical dependence studies where consumption of alcohol in drinking water cannot produce levels sufficient to cause dependence. 13 references.

082828 Goldstein, Avram; Judson, Barbara A. Department of Pharmacology, Stanford University, Stanford, California 94305 Alcohol dependence and opiate dependence: lack of relation in mice. *Science*. 172(3980):290-292, 1971.

The hypothesis that physical dependence on alcohol might be due to formation of an endogenous opiate, tetrahydropapaveroline (THP), was tested by means of the withdrawal jumping syndrome. Two groups of 20 male mice (weight 33 to 42 g) were housed in a special chamber to provide a constant atmosphere of ethanol vapor for 6 days. Blood alcohol levels varied between 1.5 and 3.0mg/ml. At the end of this period, they were divided into a control group and a naloxone group.

The latter received the drug at 10 min intervals in doses of 1, 10 and 100mg/kg (i.p.) and 5 and 50mg/kg in separate experiments. Results indicated no difference between the ethanol control group and the treated animals in that naloxone caused no opiate withdrawal jumping nor did it modify the course of the alcohol withdrawal syndrome. The hypothesis was concluded, therefore, not to have validity. 12 references.

**082863 Etevenon, P.; Boissier, J. R.** *Unité de Recherches de Neuro-Psychopharmacologie, 2, rue d'Alesia, 75, Paris 14, France* Statistical amplitude analysis of the integrated electrocorticogram of unrestrained rats before and after prochlorperazine. *Neuropharmacology*. 10(2):161-173, 1971.

The method of statistical amplitude analysis is developed and applied to the study of vigilance fluctuations in the normal rat. These are then compared with the cataleptic state produced by prochlorperazine. With unrestrained rats, the comparison between the time courses of the integrated electrocorticogram (ECoG) and neck muscles electromyogram (EMG), provided precise and objective data for the measurement of vigilance phases (arousal, sedation, slow sleep and paradoxical sleep) as well as drug effects. After prochlorperazine administration a characteristic steady state of the ECoG and EMG appeared. Compared with the normal animal, the integrated ECoG and EMG was much less variable and this effect persisted together with the cataleptic state, which is recognized by the crossing of homolateral legs. The statistical amplitude analysis was based on comparative histograms and repartition functions (cumulative frequency curves) plotted on probability paper. The mean (voltage) integrated amplitude values were the quantified ECoG and EMG, integrated each 20 sec period. Graphic comparison was completed by numerical statistical analysis of data (Student's t-test, Snedecor's F-test and chi-square goodness of fit). This method allows discrimination between drug effects and normal vigilance fluctuations. When catalepsy decreased, normal cortical and electromyographic variability resumed. 29 references. (author abstract)

**082864 Palmer, G. C.; Robison, G. A.; Sulser, F.** *Psychopharmacology Research Center, Department of Pharmacology, Vanderbilt University School of Medicine, Nashville, Tennessee 37203* Modification by psychotropic drugs of the cyclic adenosine

monophosphate response to norepinephrine in rat brain. *Biochemical Pharmacology*. 20(1):236-239, 1971.

The effect of chlorpromazine and several other agents in allowing norepinephrine to increase the level of cyclic AMP in hypothalamic and brain stem slices was investigated in young male rats. Norepinephrine elicited a 2 to 5 fold increase in cyclic AMP and chlorpromazine was found to block partially this increase in both brain areas studied. Haloperidol also was seen to inhibit the increase in brain stem tissue but had no effect on the hypothalamic slices. Pargyline caused an increase in cyclic AMP levels but did not affect the response evoked by norepinephrine. It is postulated that chlorpromazine type drugs may inhibit AMP accumulation in certain cells in the central nervous system. 20 references.

**082880 Koslow, Stephen H.; Roth, Lloyd J.** *Department of Pharmacology, University of Chicago, Abbott Hall, Room 511, 947 East 58th Street, Chicago, Illinois 60637* Reserpine and acetazolamide in maximum electroshock seizure in the rat. *Journal of Pharmacology and Experimental Therapeutics*. 176(3):711-717, 1971.

Reserpine has a dual action on the maximum electroshock seizure of the rat. At low dosage levels there is facilitation of the seizure whereas at high doses there is inhibition. The facilitation is detected as an induction of the extension component and is seen only in those animals which consistently lack this phase (flexors). The inhibition is seen in all animals (flexors and extensors) and manifests itself as a loss of the flexion component and a decreased duration of the extension phase. At these high doses reserpine antagonizes both the potency and duration of anticonvulsant action of acetazolamide. Raising the dose of acetazolamide overcomes the antagonism and simultaneously restores the flexion and extension phases to approximately normal duration. The reversal of reserpine's alteration in the maximum electroshock seizure pattern by acetazolamide argues for a competitive inhibition between these 2 drugs which may occur at the membrane or receptor level. 19 references. (author abstract)

**083161 Breese, George R.; Prange, Arthur J., Jr.** *Departments of Psychiatry and Pharmacology, University of North Carolina School of Medicine, Chapel Hill, North Carolina* Chronic dopa treatment: effect on the concentration of norepinephrine

in the hearts and brains of rats. *European Journal of Pharmacology (Amsterdam)*. 13(2):259-261, 1971.

The effect of chronic dopa treatment on the concentration of norepinephrine in the hearts and brains of rats is investigated with the hope that the effect of such treatment on adrenergic mechanisms in the rat heart might be clarified. It was found that chronic L-dopa treatment in rats had no significant effect on brain norepinephrine levels after 21 days of oral treatment. In contrast, cardiac norepinephrine was found to be markedly reduced. While dopamine was found to accumulate in heart at earlier times, 12 hours after L-dopa administration, dopamine concentrations were insufficient to compensate for the observed norepinephrine depletion. 14 references. (Author abstract modified)

083162 Guldberg, H. C.; Broch, O. J., Jr. Department of Pharmacology, University of Bergen, Bergen, Norway On the mode of action of reserpine on dopamine metabolism in the rat striatum. *European Journal of Pharmacology (Amsterdam)*. 13(2):155-167, 1971.

The effect of reserpine administration (5mg/kg, subcutaneously) on dopamine metabolism in the corpus striatum of the rat was studied by measuring dopamine and its metabolic end products, 3,4-dihydroxyphenylacetic acid (DOPAC) and homovanillic acid (HVA). Brain monoamine oxidase (MAO) and catechol-O-methyl transferase (COMT) activities were determined in control and reserpine treated animals. Probenecid (200mg/kg, intraperitoneally) was given to normal rats and rats pretreated with reserpine (6 hr), the rats were killed 20 min or 40 min after the probenecid administration. Some observations on behavioral effects of reserpine were made. Reserpine induced a rapid depletion of dopamine, an early rise in the DOPAC concentration, which soon fell to subnormal levels, and a delayed rise in the HVA concentration, with a peak 6 hr after drug administration. Reserpine caused a fall in MAO activity but no change in COMT activity. Probenecid did not affect DOPAC concentrations but increased HVA concentrations, the rate of accumulation of HVA in the reserpine treated rats was significantly greater than in control rats. After a short infusion of tyrosine-14C, the dopamine-14C accumulation in the rat striatum was the same in control and reserpine pretreated animals while HVA-14C accumulated to a significant extent in reserpine

animals but not at all in control animals. The behavioral changes of catalepsy and stereotypy in rats were associated with certain biochemical changes. 52 references. (Author abstract)

085478 Schmidt, K. M.; Kangas, J. A.; Solomon, G. F. Testing and Counseling, Santa Clara University, Santa Clara, California The effects of ethanol on the development of gastric ulceration in the rat. *Journal of Psychosomatic Research (London)*. 15(1):55-61, 1971.

A study is made to determine the effects of ethanol in stomach ulceration in 90 day old Sprague-Dawley albino rats over 10 days of approach - avoidance stress. Sixty Ss were divided into 4 groups: a 10% alcohol and dextrose group, a 20% alcohol group, a dextrose control group, and a deprivation group which did not experience the approach -avoidance conflict. One third of these groups was sacrificed at 4, 8, and 10 days. When sacrificed, the Ss stomachs were removed, mounted, and photographed and rated by pathologists using a 4 point scale. The results suggest that stress due to dietary disturbance was a greater factor in ulcer production than was the approach -avoidance conflict or the alcohol treatments. The administration of the alcohol solutions did not either increase the production of ulcers or interfere with their healing. Further, the percentage of weight loss did not correlate with severity of ulceration. A pattern of ulceration developed in all groups. Ulceration increased from 0 to 4 days, continued this increase through 8 days, and then diminished to the 4 day severity level at 10 days which indicates: adaptation to deprivation stress; healing of ulceration during stress; and healing of ulceration while under the influence of alcohol. 29 references. (Author abstract modified)

086106 Khazan, Naim; Colasanti, Brenda. Department of Pharmacology, Mount Sinai School of Medicine, Fifth Avenue and 100th Street, New York, New York 10029 Decline in the mean integrated electroencephalogram voltage during morphine abstinence in the rat. *Journal of Pharmacology and Experimental Therapeutics*. 177(3):491-499, 1971.

Direct, voltage integrated and frequency analyzed cortical electroencephalograms (EEG's) as well as integrated electromyograms were obtained from control, morphine dependent and abstinent rats prepared with chronically implanted cortical electrodes and i.v. cannulas. Morphine

sulfate, 1.25mg/kg, was injected automatically every hour for 24 hours during the first day. This dose was increased on successive days to 2.5, 5, 10 and 20mg/kg/hr, resulting in the induction of a state of morphine dependence in the rats. When morphine injections were discontinued, the behavioral manifestations of the abstinence syndrome became evident. During this period, a decline in the mean integrated EEG voltage prevailed throughout the sleep-awake cycle. The lowered voltage output of the awake state EEG endured for 2 to 3 days. The reduction of the EEG voltage output of the sleep state, however, was more pronounced and longer lasting, with recovery reached by the fourth or fifth day of abstinence. Morphine injections given during the abstinence syndrome produced an immediate rise in the low voltage output; this rise was accompanied by a marked decrease in the irritability and arousal of the abstinent rat. It is suggested that the lowered voltage output of the EEG during morphine abstinence is the product of a central nervous system mechanism developed to counteract the acute effects of morphine as to synchronization of the EEG. 21 references. (author abstract)

**086107** Tagliamonte, Alessandro; Tagliamonte, Paola; Perez-Cruet, Jorge; Stern, Stephen; Gessa, Gian L. Istituto di Farmacologia Dell' Università di Cagliari, Via Porcell, 4, 09100 Cagliari, Sardinia Effect of psychotropic drugs on tryptophan concentration in the rat brain. *Journal of Pharmacology and Experimental Therapeutics*. 177(3):475-480, 1971.

The administration of d-amphetamine, reserpine, dibutyl cyclic adenosine monophosphate and lithium or the exposure to hot environmental temperature, conditions known to increase brain serotonin synthesis, increased tryptophan concentration in brain by more than 100%. Brain tryptophan concentration was also markedly increased by phenmetrazine, phenelzine, dl-fenfluramine, bulbo-capnine, gamma-hydroxybutyrate and probenecid. On the other hand, p-chlorophenylalanine which inhibits serotonin synthesis decreased brain tryptophan level by about 50%. Morphine, apomorphine, chlorpromazine, alpha-methyltyrosine, haloperidol or exposure to cold environment did not change brain tryptophan level. Changes in tyrosine levels in brain were similar, but less pronounced than those of brain tryptophan. The increase in brain tryptophan

could be dissociated from changes in plasma tryptophan and in body temperature. However, when body temperature rose above 40 degrees C the rise in brain tryptophan was associated with a proportional rise in plasma tryptophan. Since the concentrations of tryptophan normally present in the mammalian brain are below the Km for tryptophan hydroxylase, all drugs capable of increasing tryptophan level in brain should also stimulate serotonin synthesis. Accordingly, treatments found to increase brain tryptophan level also increased that of brain 5-hydroxyindoleacetic acid. Tryptophan measurements in brain might be used in screening for drugs affecting serotonin turnover. 20 references. (author abstract)

**086148** Ho, Beng T.; Estevez, Vicente; Fritchie, G. Edward. Texas Research Institute of Mental Sciences, Houston, Texas 77025 The fate of 2,5-dimethoxy-4-methylamphetamine (STP,DOM) in monkey and rat brains. *Brain Research (Amsterdam)*. 29(1):166-169, 1971.

Hallucinations in man, caused by 2,5-dimethoxy-4-methylamphetamine (STP,DOM) have been reported; some of its metabolites have been found in animal studies. A study is presented in which metabolites of STP in monkey and rat brains were sought in order to explain a possible correlation between its metabolism and the behavioral effects. Six male squirrel monkeys and 12 male rats were injected i.v. with 3H-STP (10mg/kg, 360 microcuries/mg), and brain homogenates of the animals were examined for unchanged STP and its metabolites. The accumulation of STP was shown to be different in the 2 species. The compound entered the brains rapidly with a peak at 30 min to 1 hr. The level in the monkey brain was 6 to 8 fold higher than in the rat brain with a longer retention of STP in the monkey brain (up to 2.5hr). Of the various areas of the brain studied, the cortex was found to have the highest concentration of the isotope. At all time intervals studied most of the radioactivity present in the tissues was due to unchanged STP. From this finding it was concluded that the behavioral effects must be due to the unchanged compound. The distribution of STP was found to favor the blood cells over the plasma where it was retained longer than in the blood cells. 8 references.

**086171** Harvey, John A.; Lints, Carlton E. Department of Psychology, University of Iowa, Iowa City, Iowa 52240 Lesions in the medial forebrain

bundle: relationship between pain sensitivity and telencephalic content of serotonin. *Journal of Comparative and Physiological Psychology*. 74(1):28-36, 1971.

The effects of 5-hydroxytryptophan and p-chlorophenylalanine on telencephalic and brainstem serotonin and on jump thresholds in control rats and rats with lesions in the medial forebrain bundle (MFB) are investigated to obtain information on the relationship between pain sensitivity and the telencephalic content of serotonin. It was found that lesions in the MFB or injection of p-chlorophenylalanine decreased brain content of serotonin and decreased jump thresholds in rats. The effects of lesion and drug were not additive indicating that a common system was being affected by both procedures. Injection of 75mg/kg DL-5-hydroxytryptophan into rats with lesions returned both the jump threshold and serotonin content to normal values. The correlation between jump threshold and telencephalic serotonin was +.80. Brainstem serotonin was not related to jump threshold. Decreases in jump threshold were interpreted as indicating an increased pain sensitivity. It was concluded that this behavioral effect of the MFB lesion is secondary to the effects of the lesion on serotonin content of the telencephalon. 18 references. (Author abstract modified)

086251 Schildkraut, Joseph J.; Winokur, Andrew; Draskoczy, Paul R.; Hensle, Janet H. Massachusetts Mental Health Center, 74 Fenwood Rd., Boston, Mass 02115 Changes in norepinephrine turnover in rat brain during chronic administration of imipramine and protriptyline: a possible explanation for the delay in onset of clinical antidepressant effects. *American Journal of Psychiatry*. 127(8):1032-1039, 1971.

A study compares the effects of acute and chronic administration of the tricyclic antidepressants imipramine and protriptyline on the turnover and metabolism of norepinephrine in rat brain. The turnover of norepinephrine was decreased after acute administration but increased during chronic administration of these drugs. This increase in norepinephrine turnover occurred sooner when thyroxine was administered with the imipramine. This may help to explain why clinical antidepressant effects are generally observed only after chronic administration of imipramine or protriptyline and why thyroid hormone may accelerate and enhance the clinical antidepressant

effects of imipramine. 21 references. (Author abstract)

086578 Dreyfuss, Jacques; Ross, John J., Jr.; Schreiber, Eric C. Department of Drug Metabolism, Squibb Institute for Medical Research, New Brunswick, New Jersey 08903 Excretion and biotransformation of the enanthate ester of fluphenazine-14C by the dog. *Journal of Pharmaceutical Sciences*. 60(6):829-833, 1971.

Fluphenazine-C enanthate (4-(1-14C-3-(2-(trifluoromethyl) phenothiazin-10-yl)propyl)-1-piperazineethanol ester with heptanoic acid) in a sesame oil formulation was administered intramuscularly to dogs. Only traces of radioactivity were found in the circulation. Excretion was predominantly in the feces; 2 to 3% of the dose was excreted in the urine. Radioactivity was still present at the sites of injection 21 days after the dogs had received the dose. Unformulated fluphenazine-14C enanthate was excreted according to a biphasic, exponential decay curve after intravenous administration to a dog with an externalized bile duct. The half-life of the slower portion of this decay curve was considerably faster than that observed in dogs that had received formulated fluphenazine-14C enanthate intravenously. Thus, the rate limiting step in the biological disposition of formulated fluphenazine-14C enanthate after intramuscular administration is probably the release from an oily depot rather than excretion. Unformulated fluphenazine-14C enanthate, administered intramuscularly to a dog with an externalized bile duct, also represents a slow release situation. Therefore, the sesame oil employed in the formulation serves as a convenient vehicle for the administration of the drug, although its presence is not an absolute requirement for slow release. Fluphenazine-14C enanthate is hydrolyzed to fluphenazine-14C by plasma esterases. Radioactivity present in the bile of a dog that had received fluphenazine-14C enanthate intravenously was identical with the glucuronide conjugate of 7-hydroxyfluphenazine. Thus fluphenazine-14C enanthate appears to be metabolized by the dog according to the metabolic pathway established for fluphenazine-14C. 3 references. (author abstract)

086579 Dreyfuss, Jacques; Cohen, Allen I. Department of Drug Metabolism, Squibb Institute for Medical Research, New Brunswick, New Jersey 08903 Identification of 7-hydroxyfluphenazine as

major metabolite of fluphenazine-14C in the dog. *Journal of Pharmaceutical Sciences*. 60(6):826-828, 1971.

The major metabolite of fluphenazine-14C (4-(1-14C-3-(2-(trifluoromethyl)phenothiazin - 10 - yl) - 1 - piperazine-ethanol dihydrochloride) in dogs and rhesus monkeys is 7-hydroxyfluphenazine. This metabolite was isolated from the feces of dogs by a combination of solvent extraction, column chromatography and preparative TLC. Mass spectral data and 220-MHz. NMR spectroscopy indicated that the metabolite was hydroxylated on either the C-7 or C-8 position of the phenothiazine ring system. Definitive identification of the metabolite as 7-hydroxyfluphenazine was provided by a comparison of the spectral and chromatographic properties of the metabolite with authentic samples of 7-hydroxyfluphenazine and 8-hydroxyfluphenazine. 13 references. (author abstract)

086580 Dreyfuss, Jacques; Ross, John J.; Schreiber, Eric C. Department of Drug Metabolism, Squibb Institute for Medical Research, New Brunswick, New Jersey 08903 Biological disposition and metabolic fate of fluphenazine-14C in the dog and rhesus monkey. *Journal of Pharmaceutical Sciences*. 60(6):821-825, 1971.

Fluphenazine-14C, 4-(1-14C-3-(2-(trifluoromethyl)phenothiazine-10-yl)propyl)-1-piperazineethanol dihydrochloride, was administered orally to dogs at 10 and 40mg/kg and to monkeys at 10 mg/kg. After an oral dose of 10mg/kg, dogs excreted 2 to 4% and 75 to 89% of the dose in the urine and feces, respectively. Monkeys that received 10mg/kg orally excreted 12 to 19% and 56 to 69% of the dose in the urine and feces, respectively. After an oral dose of 40 mg/kg, dogs excreted 5 to 18% and 85 to 110% of the dose in the urine and feces, respectively. After 10mg/kg i.v., a dog excreted 1.2, 62.0, and 0.03% of the dose in the urine, bile, and expired air, respectively, in 7 hr. After an oral dose of 40mg/kg, dogs had the highest concentrations of radioactivity in the liver; lungs; combined retina, choroid, and sclera; and kidneys. Localization of radioactivity to gross areas of the brain was not demonstrable. In addition to fluphenazine sulfoxide, several metabolites were present in the urine of dogs and monkeys. In the feces, in addition to fluphenazine-14C, one major and 2 minor metabolites were found in both species. As the oral dose of fluphenazine-14C administered to

dogs was increased from 10 to 40mg/kg, the amount of unchanged fluphenazine-14C increased relative to the major metabolite. The major metabolite was unconjugated in the feces but was present as the glucuronide conjugate in the bile. 10 references. (author abstract)

086700 Forrest, I. S.; Brookes, L. G.; Barth, R. Department of Psychiatry, Stanford University School of Medicine, Palo Alto, California Use of hepatic microsomes in the preparation of model drug metabolites. *Proceedings of the Western Pharmacology Society*. 13:1-4, 1970.

In the course of cataloging the various drug metabolizing pathways for chlorpromazine, characteristic of individual species of mammals, very significant interspecies differences in vivo were noted. Time and effort requirements of in vivo studies are great, so in vitro studies of chlorpromazine metabolism in 11 species of animals were made to test the use of hepatic microsomes in the preparation of model drug metabolites. Standardized conditions for preparation of the hepatic microsomes are presented, and incubation conditions are described for in vitro studies of tritium labeled chlorpromazine metabolism. Data are presented for the 4 species showing the highest rate of chlorpromazine metabolism for the 11 tested: sheep, dog, rabbit, and guinea pig. The systems were tested for production of chlorpromazine metabolites: chlorpromazine sulfoxide, chlorpromazine N-oxide, 7-hydroxychlorpromazine and its sulfoxide, and some other unidentified, deaminated metabolites. Extension and possible future uses of these metabolic systems are discussed. 8 references.

086702 Walter, S.; Balzano, E.; Vuillon-Cacchiuto, G.; Naquet, R. Laboratoire de Neurophysiologie Chirurgicale, Unité 41, 42, Rue Richmond-Desbassayns, 92 Suresnes, France /Behavioral and electrographic effects of D-lysergic acid diethylamide (LSD 25) on the photosensitive Papio papio./ Effects comportementaux et électrographiques du diéthylamide de l'acide D-lysergique (LSD 25) sur le Papio papio photosensible. *Electroencephalography and Clinical Neurophysiology (Amsterdam)*. 30(4):294-305, 1971.

The behavior, spontaneous electrographic activities, the visual evoked potential and the photosensitivity of 15 Papio papio were studied before and after intravenous injection of D-lysergic acid diethylamide (LSD 25). The changes in

these various parameters were noted and possible relationships among them were investigated. It was found that: 1) the changes in behavior appeared earlier and at a lower threshold in animals fixed in special chairs than in animals at liberty. They were of 3 kinds, involving vision, the somatomotor and autonomic systems. Return to normal behavior occurred rapidly after small doses but progressively and more slowly after increased doses. 2) The electrographic changes were reproducible from 1 animal to another, appearing very rapidly and being the last to disappear. 3) Average evoked potential recorded from the retina and the optic tract were not decreased in amplitude whatever the dose. On the other hand, with small doses of the order of 0.5gamma/kg, LSD 25 always depressed synaptic transmission in the lateral geniculate body, for a time depending on the doses. 4) Above 20 to 30 gamma/kg LSD more or less blocked the paroxysmal electroclinical discharges which are usually produced by photic stimulation in the photosensitive Papio papio. The length of protection varied according to the dose. Other behavioral and neurophysiological reactions and relationships are discussed. 46 references. (Journal abstract modified)

**086805** Pohle, W.; Matthies, H. Department of Pharmacology and Toxicology, Medical Academy, Magdeburg, G.D.R. The incorporation of (3H)uridine monophosphate into the rat brain during the training period. A microautoradiographic study. *Brain Research (Amsterdam)*. 29(1):123-127, 1971.

Orotic acid and uridine monophosphate are capable, when present in the brain during the acquisition phase, of enhancing learning and retarding extinction. Therefore, the incorporation of (3H)uridine monophosphate into the brains of rats during a training period was investigated by the microautoradiographic method. In the hippocampal and certain parts of the cortex a strikingly increased incorporation into the nuclei of neurones was found in trained animals. This supports the hypothesis that the hippocampus is responsible for recent memory whereas the cortex accounts for long-term memory. 17 references. (author abstract modified)

**086806** MacInnes, J. W.; Schlesinger, K. Institute for Behavioral Genetics, University of Colorado, Boulder, Colorado 80302 Effects of excess phenylalanine on in vitro and in vivo RNA and protein

synthesis and polyribosome levels in brains of mice. *Brain Research (Amsterdam)*. 29(1):101-110, 1971.

The effects of excess phenylalanine on in vivo and in vitro protein and RNA synthesis and on polyribosomes in brain tissue was investigated in inbred and hybrid mice. It was found that the disaggregation of polyribosomes is not necessary for the inhibition of protein synthesis (and, in fact, the polyribosome disaggregation may be a secondary effect of the protein synthesis inhibition); the protein synthesis inhibition in vitro does not depend on whether the preparation is of membrane bound or free polyribosomes, or on the age of the animals. Several other amino acids had similar effects on protein synthesis and polyribosomes. Brain damage observed as a result of elevated phenylalanine levels in humans, monkeys, and rodents may therefore be due to a general mechanism common to many disorders which lead to elevated levels of amino acids. 13 references. (author abstract)

**086808** Corrodi, Hans; Fuxe, Kjell; Lidbrink, Peter; Olson, Lars. Department of Pharmacology, University of Goteborg, Biochemical Laboratories, AB Hassle, Goteborg, Sweden Minor tranquilizers, stress and central catecholamine neurons. *Brain Research (Amsterdam)*. 29(1):1-16, 1971.

The effects of chlordiazepoxide, diazepam and nitrazepam on central dopamine (DA) and noradrenaline (NA) neurons of non-stressed and stressed rats were studied using histochemical and biochemical analysis of DA and NA. Stress increased NA turnover in all parts of the brain and the spinal cord, while DA turnover in the telencephalon was significantly reduced. Chlordiazepoxide and diazepam decreased NA turnover in the cortex cerebri and cortex cerebelli and the hippocampal formation but did not do so in the hypothalamus or the lower brain stem indicating the benzodiazepine derivatives decrease the impulse activity in the NA neurons of the locus coeruleus which innervate all cortices of the brain. Chlordiazepoxide and diazepam caused a small but significant decrease in DA turnover in ascending DA neurons to the neostriatum and the limbic forebrain indicating reduced impulse flow in these neurons. Chlordiazepoxide, diazepam and nitrazepam caused a blockade of the stress induced activation of NA neurons by decreasing nervous activity in these neurons. Chlordiazepoxide and diazepam potentiated the stress-induced decrease in nervous activity in ascending DA neu-

rons. The decrease in nervous activity in DA and NA neurons produced by chlordiazepoxide and diazepam may be responsible for part of the pharmacological effects of these tranquilizers such as sedation and EEG slowing. 67 references. (author abstract modified)

**086810** Clark, William G.; Corrodi, H.; Masuoka, David T. Psychopharmacology and Neuropharmacology Research Laboratories, Veterans Administration Hospital, Sepulveda, California 91343 The effects of peripherally administered 6-hydroxydopamine on rat brain monoamine turnover. *European Journal of Pharmacology (Amsterdam)*. 15(1):41-44, 1971.

Peripheral chemical sympathectomy by 6-hydroxydopamine in rats accelerated turnover of cerebral noradrenaline, but did not change turnover of cerebral dopamine and 5-hydroxytryptamine. This increase in noradrenaline turnover was long lasting and was observed in the first degenerative phase of the action of 6-hydroxydopamine as well as after established degeneration of the peripheral sympathetic nerves. This was due, in the first instance, to released noradrenaline; in the second phase, sympathetic tone should be low since most of the adrenergic nerves have degenerated. Peripheral sympathectomy leads to a compensatory increased neuronal activity in the brain which causes increased noradrenaline turnover. 15 references. (author abstract modified)

**086811** Hrdina, Pavel D.; Ling, George M.; Maneckjee, Aspi. Department of Pharmacology, Faculty of Medicine, University of Ottawa, Ottawa 2, Ontario, Canada Desipramine (DMI): effect on the levels of acetylcholine (ACh) in whole brain and in striatum of rats. *European Journal of Pharmacology (Amsterdam)*. 15(1):141-144, 1971.

The effect of desipramine on the levels of acetylcholine (ACh) in whole brain and in striatum was investigated. Desipramine (10mg/kg) produced a significant decrease in ACh content of corpus striatum in rats at both 30 min and 60 min after a single injection of the drug. No changes in ACh content of whole brain were found with the same dose of DMI. The results suggest that desipramine can directly influence cholinergic mechanisms in the striatum, and that cholinergic mechanisms may also be involved in mode of central action of desipramine. 21 references. (author abstract modified)

**086812** Jori, A.; Bernardi, D.; Muscettola, G.; Garattini, S. Istituto di Ricerche Farmacologiche 'Mario Negri', Via Eritrea 62, 20157 Milan, Italy Brain levels of imipramine and desipramine after combined treatment with these drugs in rats. *European Journal of Pharmacology (Amsterdam)*. 15(1):85-90, 1971.

Rats were treated with a combination of imipramine (IMI) and desipramine (DMI). Tissue concentrations of the drugs were determined at various times and compared with the levels obtained after treatment with either IMI or DMI alone. Brain concentrations of IMI increased when rats were pretreated with DMI. The concentrations of brain and plasma DMI were higher than the sum of the concentrations attained after addition of DMI and IMI separately. However, the rates of removal of IMI from the brain were similar after single or combined treatment. The results are examined in view of the favorable effects obtained in clinical trials with combinations of these antidepressant drugs. 35 references. (author abstract)

**086813** Roth, Robert H. Department of Pharmacology, Yale University School of Medicine, New Haven, Connecticut 06510 Effect of anesthetic doses of gamma-hydroxybutyrate on subcortical concentration of homovanillic acid. *European Journal of Pharmacology (Amsterdam)*. 15(1):52-59, 1971.

The naturally occurring central nervous system depressant gamma-hydroxybutyrate (GHB) and its lactone precursor gamma-butyrolactone (GBL) produce a marked increase in brain dopamine. These agents also appear to cause an effective and quite selective block in the utilization of brain dopamine. Thus administration of GBL, or GHB to rats in anesthetic doses blocks the depletion of dopamine induced by alpha-methyl-p-tyrosine. Shortly after administration of GBL when brain dopamine levels are rapidly increasing the levels of homovanillic acid remain the same or decrease. As the sleep inducing effects of the drug wane and the dopamine levels begin to fall, a marked increase in the brain level of homovanillic acid is observed. 1,4-Butanediol, an analogue of gamma-hydroxybutyrate, which exerts its central nervous system depression as a result of conversion in vivo to gamma-hydroxybutyrate also causes a transient increase in brain dopamine and a fall in homovanillic acid. This effect is followed by a marked increase in homovanillic acid as the dopamine levels fall off to predrug conditions. Anesthetic doses of GBL also antagonize the ini-

tial increase in HVA normally produced by the neuroleptic drug, chlorpromazine, either at ambient temperature or at 32 degrees C. Administration of a nonsleep inducing dose of GBL does not significantly alter the endogenous concentrations or markedly interfere with the utilization of subcortical dopamine. A nonsleep inducing dose of GBL also does not block the chlorpromazine induced increase in homovanillic acid. Administration of other central nervous system depressants, such as chloral hydrate in hypnotic doses does not antagonize the chlorpromazine induced increase in homovanillic acid. 24 references. (author abstract)

086814 Strada, S. J.; Sulser, F. Laboratory of Preclinical Pharmacology, National Institute of Mental Health, Saint Elizabeth's Hospital, Washington, D. C. 20032 Comparative effects of p-chloroamphetamine and amphetamine on metabolism and in vivo release of 3H-norepinephrine in the hypothalamus. *European Journal of Pharmacology (Amsterdam)*. 15(1):45-51, 1971.

Following the implantations of a push - pull cannula into the anterior hypothalamus and a polyethylene cannula into the lateral ventricle of the rat, the brain norepinephrine (NE) stores were labeled by intraventricular injection of 3H-NE. In freely moving nonanesthetized control animals,  $4.91 \pm 0.73$  nCi/hr of radioactivity were spontaneously released into the perfusate of the hypothalamus, with 25% of the total radioactivity being unchanged NE. Although amphetamine and p-chloroamphetamine caused similar qualitative alterations in the metabolic pattern of 3H-NE in brain tissue, p-chloroamphetamine evoked a striking increase in the release of NE and normetanephrine into the perfusate while pharmacologically equipotent doses of amphetamine elicited only a small increase in the release of NE; the changes in the release of normetanephrine were less pronounced than those caused by p-chloro-amphetamine. Since both NE and its O-methylated product are derived mainly from stored tritiated NE, the results support the view that some of the central actions of p-chloroamphetamine may be mediated predominantly through the release of stored catecholamines while the storage of NE and dopamine appears not to be as essential for the central stimulatory action of amphetamine as long as the synthesis of catecholamines is maintained. 42 references. (author abstract)

086818 Ho, Beng T.; Estevez, Vicente; Fritchie, G. Edward; Tansey, L. Wayne; Idanpaan-Heikkila, Juhana; McIsaac, William M. Texas Research Institute of Mental Sciences, Houston, Texas 77025 Metabolism of harmaline in rats. *Biochemical Pharmacology*. 20(6):1313-1319, 1971.

The distribution and metabolic fate of (3H)-harmaline-HCl were studied in rats. Thirty min after subcutaneous injection, high radioactivity was found in the small intestine, liver, adrenals, kidneys and lungs. A rapid turnover and elimination was evident after the first hour, as most of the tissues, except the liver, kidneys and intestines, had decreased nearly 50% in levels of radioactivity. About 40% of the harmaline was bound to human serum or rat serum proteins in vitro. The blood levels, however, were low at all times in vivo. The peak concentration in the brain occurred at 1 hr postinjection. The major route of excretion of harmaline and its metabolites was through the kidneys; a total of 62% of the injected dose was excreted in the urine during 96 hr as compared to only 11.5% in the feces over the same period. The major fate of harmaline in rats was demethylation to form harmalol, which was predominantly excreted as the glucuronide conjugate. Six to 10% of the radioactivity was identified as the sulfate conjugate of harmol, which was formed by the dehydrogenation of harmalol. During the first 8 hr, unchanged harmaline in the urine amounted to about 25%; however, this decreased to only 7% during the 8 to 24 hr period. 12 references. (author abstract)

086819 Estler, C.J.; Mitznegg, P. Department of Pharmacology, University of Erlangen-Nurnberg, Erlangen, Germany Influence of methamphetamine on incorporation of glucose into brain glycogen. *Biochemical Pharmacology*. 20(6):1331-1333, 1971.

00NCMHI, XJournal Article, XResearch Study The incorporation of glucose into brain glycogen was studied to determine the cause of the methamphetamine induced drop in brain glycogen content. Mice were injected s.c. with 3 micrograms/g methamphetamine HCl, followed in 15 min by 0.1 microcuries/g <sup>14</sup>C-glucose. The animals were sacrificed 30 min later and glycogen isolated from brain samples for determination of the cerebral glycogen content. Incorporation of <sup>14</sup>C-glucose into glycogen was also determined. When the glycogen content of the brain has declined by 29% the specific activity of the cerebral glycogen has increased by 80%. The increase of the specific activity of the glycogen is

thus the result of the reduced size of the glycogen pool plus the enhanced rate of incorporation of glucose into glycogen, possible due to the greater amount of glucose present in the brain. Thus the decrease of the glycogen content of the brain produced by methamphetamine cannot be attributed to an inhibition of glycogen synthesis but must be related to enhanced glycogenolysis. 3 references.

**086820** Norn, S.; Shore, P. A. Department of Pharmacology, University of Texas Southwestern Medical School, Dallas, Texas Further studies on the nature of persistent reserpine binding: evidence for reversible and irreversible binding. *Biochemical Pharmacology*. 20(6):1291-1295, 1971.

Tritium labeled reserpine of high specific activity was injected into rats, and drug levels measured in heart, spleen, adrenal glands, and small intestine. All tissues showed a first order reserpine decline terminating about 24 to 30 hr after injection. After this time there was a semi-permanent binding persisting for many days. Experiments in which high doses of unlabeled reserpine were given 18 or 30 hr after the labeled drug reveal that at the 18 hr time a portion of the drug is reversibly bound, while at the 30 hr time the drug is irreversibly bound. It is suggested that the reversibly bound phase is associated with blockade of the intraneuronal amine carrier system, while the irreversible phase is associated with prolonged alteration of the granular amine storage mechanism. 5 references. (author abstract)

**086821** Michalek, Hanna; Antal, J.; Gatti, G. L.; Pocchiari, F. Laboratori di Chimica Terapeutica e Chimica Biologica, Istituto Superiore di Sanita, Rome, Italy Effect of triperidol on processes involving acetylcholine in rat brain in vitro. *Biochemical Pharmacology*. 20(6):1265-1270, 1971.

The effect of triperidol on the synthesis of free acetylcholine in fresh tissue, on the activity of the choline acetylase system in extracts of acetone powders, and on the activity of acetylcholinesterase in homogenates was studied in various regions of rat brain. Triperidol at a concentration 0.2mM decreases the free acetylcholine synthesis in brain cortex slices by about 80%. This decrease, although considerably lower, is statistically significant even at a concentration of the drug of 0.002mM. Triperidol is without effect on the activity of choline acetylase system in cerebral cortex at concentrations varying from

0.001 mM to 0.2mM. Triperidol is without effect on the activity of acetylcholine esterase in all regions studied at concentrations ranging from 0.001 MM to 0.2mM. 20 references. (author abstract)

**086822** Christian, S. T.; Gorodetzky, C. W.; Lewis, D. V. United States Department of Health, Education and Welfare, Public Health Service Structure-activity relationships of normeperidine congeners on cholinesterase systems in vitro and analgesia in vivo. *Biochemical Pharmacology*. 20(6):1167-1182, 1971.

The relative importance of hydrophobic or Van der Waals forces has been evaluated in a quantitative manner with regard to the binding of a series of N-alkylsubstituted normeperidine homologs to both acetylcholinesterases and butyrylcholinesterases. The normeperidine compounds gave mixed inhibition with both enzymes with acetylcholine was used as substrate. However, the mixed inhibition changed to pure non-competitive with acetylcholinesterase when the hexyl through the decyl substituted normeperidines were used. Both the competitive and noncompetitive inhibitor dissociation constants were determined for the enzyme systems. Many of the differences between the 2 enzyme systems may be explained on the basis of a difference in the physical characteristics of the nonpolar region in the vicinity of their active sites. The analgesic potencies of the normeperidine congeners were determined by the hot plate method and, when plotted as a function of alkyl chain length, showed similarities to the acetylcholinesterasekinetic data and to other physical chemical parameters, indicating similarities in the nature of the acetylcholinesterase active center and the analgesic receptor. Calculation also indicated that a change in binding energy of only 0.3kcal/mole is reflected as a change in the ED50 of 50% in going from the butyl to the pentyl normeperidine derivatives. 33 references. (author abstract modified)

**086898** Simpson, L. L. Division of Neuroscience, New York State Psychiatric Institute, 722 West 168th Street, New York, New York 10032 Mechanism of the antagonism by 5-hydroxytryptamine of the toxicity due to certain cholinergic blocking agents. *Neuropharmacology (Oxford)*. 10(3):335-345, 1971.

5-Hydroxytryptamine has been reported as an antagonist in in vivo neuromuscular paralysis in

mice. Experiments to elucidate the mechanism of interaction between 5-hydroxytryptamine and cholinergic blocking agents were conducted. Cholinergic blocking agents tested were botulinum toxin, D-tubocurarine, nereistoxin and hemicholinium. 5-hydroxytryptamine was most effective in antagonizing in vivo cholinergic blockade about 1 hr after its injection. It was also found that 5-hydroxytryptamine lowered body temperature most effectively 1 hr after its injection. Agents other than 5-hydroxytryptamine, namely sodium pentobarbitone and formaldehyde, also lowered body temperature and antagonized in vivo neuromuscular paralysis. It is proposed that the prolonged survival of mice treated with 5-hydroxytryptamine and then challenged was a result of depressed body temperature with a concomitant slowing in the binding and/or activity of cholinergic blocking agents. In addition to hypothermia, edema was detected in rats and mice treated with 5-hydroxytryptamine. Further experiments are suggested to determine whether edema facilitates or antagonizes the hypothermic effect. 20 references. (author abstract)

**086899** Costall, B.; Olley, J. E. Postgraduate School of Studies in Pharmacology, University of Bradford, Bradford 7, England Cholinergic- and neuroleptic-induced catalepsy: modification by lesions in the caudate putamen. *Neuropharmacology (Oxford)*. 10(3):297-306, 1971.

Both haloperidol and arecoline induced a cataleptic state in rats and a marked synergistic effect was observed upon combination of threshold doses of these 2 drugs. Atropine sulphate, but not atropine methylnitrate, blocked the cataleptic effects of the 2 drugs alone and in combination. Bilateral lesions of the caudate-putamen potentiated the cataleptic effect of arecoline while markedly reducing the cataleptic effect of haloperidol. Only the potentiated effect of arecoline was observed upon administration of a combination of the 2 drugs to animals with bilateral caudate-putamen lesions. Unilateral lesions of the caudate-putamen had no significant effect upon arecoline catalepsy but partially reduced the cataleptic effects of haloperidol and the combination. The possible role of the extrapyramidal system in these effects is discussed. 30 references. (author abstract)

**086938** Badi, M. Boulos; Davis, Lloyd E.; Almond, Carl H.; Jackson, Robert L. University of

Missouri, Columbia, Missouri Placental transfer of diazoxide and its hazardous effect on the newborn. *Journal of Clinical Pharmacology*. 11(3):206-210, 1971.

The effects of chronic diazoxide administration to mother goats and sheep on their offspring are reported. The pregnant animals were anesthetized (4% fluothane in nitrous oxide) prior to injection with diazoxide (5mg/kg, i.v.) and the fetal heart was catheterized for blood collection. Both fetal and maternal blood were analyzed for blood sugar content and for presence of the drug. Diazoxide did not affect maternal glucose levels and blood drug levels were constant throughout the study. Blood glucose did increase significantly in the fetuses within the first 30 minutes of administration to the mother and remained elevated after cessation of drug administration. The fetal hyperglycemic effect was felt to be of pancreatic origin through destruction of the islets of Langerhans, as evidenced from histological studies. 19 references.

**087061** Rowles, Susan G.; Born, Gordon S.; Russell, Henry T.; Kessler, Wayne V.; Christian, John E. Department of Bionucleonics, School of Pharmacy, Purdue University, Lafayette, Indiana 47907 Biological disposition of pentylenetetrazol-10-14C in rats and humans. *Journal of Pharmaceutical Sciences*. 60(5):725-727, 1971.

Pentylenetetrazol has been used in treatment of geriatric patients with symptoms of mental confusion, depression or arteriosclerosis psychosis. Female white rats were dosed orally with pentylenetetrazol-10-14C. Total radioactivity in different tissues was determined at 5 times after dosing. The kidney and liver showed slightly higher levels of radioactivity than did the blood and other tissues analyzed. During the first 24 hr, approximately 73% of the administered 14C was recovered in the urine; less than 1% was recovered in the feces. TLC of urine followed by autoradiography showed the presence of pentylenetetrazol-10-14C and at least 5 radioactive metabolites. Acetone extracts of the blood were chromatographed and were found to contain pentylenetetrazol-10-14C and 4 of the 5 labeled metabolites detected in the urine. TLC of urine collected from humans dosed orally with pentylenetetrazol-10-14C showed the presence of pentylenetetrazol-10-14C and at least 4 radioactive metabolites. The metabolites in human urine occurred at the same Rf positions as the labeled

metabolites of rat urine when cochromatographed, indicating possible similar metabolism by rats and humans. 9 references. (author abstract modified)

087115 Beckett, A. H.; Van Dyk, J. M.; Chissick, H. M.; Gorrod, J. W. Department of Pharmacy, Chelsea College (University of London), London S.W.3, England 'Metabolism' of 'amphetamines' to oximes as a route to deamination. *Journal of Pharmacy and Pharmacology (London)*. 23(7):560, 1971.

Rabbits or guinea-pigs were injected with the (+) or (-) isomers or the racemates of amphetamine, methylamphetamine and ethylamphetamine, and the syn and anti-benzylmethylketoximes were found to be present in the urine in free and conjugated forms. The metabolic conversion of the parent drugs to oxime and the stereo-isomeric composition of the oxime varied with the species and with the enantiomorphs administered; in general, the anti-isomer predominated. In metabolic studies, the amount of oxime converted to ketone and its stereoisomeric content will depend upon the pH of the urine, storage time, procedures used to isolate the isomers and the method of analysis. This instability of oxime in solution may account for the fact that despite many reports of the identification of benzylmethyl ketone as metabolite of amphetamines, the metabolism of amphetamine to benzylmethyl ketoxime has only recently been reported. Norephedrine was not found in the urine after normal doses of methylamphetamine to guinea-pigs. 2 references.

087116 Ahtee, Liisa; Saarnivaara, Laila. Department of Pharmacology, University of Helsinki, Siltaavuorenpenger 10, Helsinki 17, Finland The effect of drugs upon the uptake of 5-hydroxytryptamine and metaraminol by human platelets. *Journal of Pharmacy and Pharmacology (London)*. 23(7):495-501, 1971.

The abilities of some tricyclic and bicyclic antidepressive drugs and an alpha-receptor blocking agent, phenoxybenzamine, to inhibit the uptake of 5-hydroxytryptamine (5-HT) and (-)-metaraminol into human platelets have been compared in vitro. All the drugs inhibited the uptake both of 5-HT and of metaraminol into platelets, but there were differences in their abilities to inhibit the uptake of these 2 monoamines. The desmethylated antidepressive drugs were more potent inhibitors of metaraminol uptake than were their tertiary analogues, whereas imipramine, a tertiary amine,

was by far the best inhibitor of 5-HT uptake. The order of the activities of the antidepressive drugs in inhibiting the uptake of 5-HT and metaraminol into platelets paralleled their potencies in blocking the uptake of 5-HT, and noradrenaline or metaraminol into nerve endings. It is suggested that the uptake of 5-HT and metaraminol into platelets is a useful model for the neuronal uptake of 5-HT and noradrenaline, respectively. 27 references. (author abstract)

087123 Kidman, A. D.; Weiss, B.; Costa, E. Department of Biochemistry, Monash University, Clayton, Victoria 3168, Australia Protein metabolism and amino acid accumulation in the rat submaxillary gland during reduced sympathetic activity. *Journal of Neurochemistry (London)*. 18(6):817-826, 1971.

Unilateral sympathetic decentralization of the superior cervical ganglion of rats was performed 3 days prior to the experiments. A 2 compartment kinetic model was proposed to describe the effect of decentralization on the uptake of a nonphysiological amino acid from plasma to the submaxillary gland and the incorporation of a physiological amino acid from precursor pool into protein. The calculations based on the model showed that the fractional rate constant for efflux of the nonphysiological amino acid, alpha-(3-14C)aminoisobutyric acid, was greater in the decentralized than in the normal gland. However, efflux rate was equal in the 2 glands because the extrapolated zero time value of the initial concentration was greater in the normal gland. The labelled physiological amino acid, (14C)leucine, was used in initial experiments to assess turnover rate of the gland proteins but it was rapidly metabolized to many other radioactive compounds. Therefore, arginine(14C)guanido was employed, arginine being the only labelled amino acid found after injection. Since the steady state content of submaxillary gland proteins was not changed but the fractional rate constant of conversion of free arginine into protein (kp) was greater in the decentralized gland (kp equals 0.40/hr) than in the normal (kp equals 0.27/hr), we can conclude that decentralization increases protein turnover rate; thus, assuming that arginine(14C)guanido is homogeneously distributed in the tissue pools of free arginine, the rate of protein turnover is greater in the sympathetically decentralized gland than in the normal. 17 references. (author abstract)

087124 Grahame-Smith, D. G. Medical Unit, St. Mary's Hospital Medical School, London W2, England Studies in vivo on the relationship between brain tryptophan, brain 5-HT synthesis and hyperactivity in rats treated with a monoamine oxidase inhibitor and L-tryptophan. *Journal of Neurochemistry* (London). 18(6):1053-1066, 1971.

The effect of L-tryptophan loading upon the amount of 5-hydroxytryptophan (5-HT) accumulating in the brains of rats pretreated with a monoamine oxidase inhibitor was studied. The amount of brain 5-HT accumulated increased with increasing tryptophan dosages and brain tryptophan concentrations up to a tryptophan dose of 120mg/kg body weight and a brain tryptophan of about 70 micrograms brain. After monoamine oxidase inhibition and tryptophan loading gross hyperactivity and hyperpyrexia occurred. DL-Parachlorophenylalanine prevented both the occurrence of hyperactivity and the increased accumulation of brain 5-HT. Indices of hyperactivity correlated with the amount of brain 5-HT accumulating in 1 h after tryptophan loading but not with the overall concentration of brain 5-HT, suggesting that hyperactivity was dependent upon the rate of 5-HT synthesis. Reserpine and tetrabenazine pretreatment speeded the onset and rate of development of the hyperactive state without altering the synthesis of brain 5-HT. When monoamine oxidase is inhibited and the rate of 5-HT synthesis is increased, granular uptake and storage of 5-HT and other rate limiting mechanisms for 5-HT inactivation are unable to prevent 5-HT 'spilling over' to produce hyperactivity. Intraneuronal metabolism and the intraneuronal organization of 5-HT pools are of more importance than synthesis in regulating the amount of 5-HT available for functional activity. 26 references. (author abstract modified)

087212 Bartonicek, V. J. Sanct Lars Hospital, Lund, Sweden Fluorescence microscopic study on rat brain neurons affected by harmaline administration. *Pharmacology (Basel)*. 5(1):36-42, 1971.

Harmaline doses of 25 or 50mg/kg were administered i.p. to albino rats, the animals being killed 3 hr later. Falck-Hillarp's fluorescence microscopic method and Bjorklund's method for the evaluation of 5-hydroxytryptamine and noradrenaline were applied. On the base of the spectrophotofluorometric measurements one can suggest that harmaline entered actively but in a rather limited extent both noradrenergic and 5-hydroxytryptaminergic nerve cell bodies. It also

entered the nerve tissue diffusely without any preference. The working hypothesis that harmaline could function as a false transmitter could not, however, be certified. 7 references. (author abstract)

087358 Layman, J. M.; Milton, A. S. Department of Pharmacology, School of Pharmacy, University of London, Brunswick Square, London WC1N 1AX, England Some actions of delta-1-tetrahydrocannabinol and cannabidiol at cholinergic junctions. *British Journal of Pharmacology* (London). 41(2):379-380, 1971.

The effects of delta-1-tetrahydrocannabinol (THC) and cannabidiol (CBD), were studied at several cholinergic sites. THC (0.00000318 M) reduced the twitch response of the transmurally stimulated ileum of the guinea pig, while CBD at the same concentration did not. In some experiments both THC and CBD (0.00000018 M) reduced the response of the guinea pig ileum to acetylcholine, and both compounds reduced the spontaneous release of acetylcholine from the ileum. Neither THC nor CBD in concentrations up to 0.0000159 had any effect on the rat phrenic nerve diaphragm preparation, or on acetylcholine induced contraction of the frog rectus abdominis muscle. Therefore, THC and CBD appear to be inactive at the cholinergic sites investigated other than at the postganglionic parasympathetic nerve ending. 1 reference.

087359 Bradshaw, C. M.; Roberts, M. H. T.; Szabadl, E. Department of Psychiatry, University of Edinburgh Effect of tricyclic antidepressants on monoamine responses of single cortical neurones. *British Journal of Pharmacology* (London). 41(2):394-395, 1971.

The potentiation of neuronal responses to noradrenaline (NA) and 5-hydroxytryptamine (5HT) in the central nervous system were investigated. Eighty three spontaneously active neocortical cells were studied in the anesthetized cat, and the monoamine responses were compared before and after iontophoretic application of an antidepressant. Imipramine was used with 5HT, and desipramine with NA. Potentiation of the monoamine response was observed in 47 of the 83 cells studied, reaching a maximum 10 min after application of the antidepressant with currents of 25 nA applied for 15 sec. Antagonism of the amine response was observed in 45 cells, usually after antidepressant applied at 50 nA for 30 sec.

The specificity of the effects of imipramine and desipramine was investigated in 35 cells excited by acetylcholine; 17 responses were potentiated and 18 antagonized. Thus, antidepressants can potentiate monoamine responses in the central nervous system, but antagonism also was seen requiring slightly larger currents to apply the antidepressant. 5 references.

**087365 Digenis, George A.; Walstad, Diana L.; Ishaque, M.; Aleem, M. I. H.** Department of Pharmaceutical Chemistry, University of Kentucky, Lexington, Kentucky 40506 Mechanism of action of antipsychotic drugs on biological electron transport. *Biochemical Pharmacology*. 20(4):919-921, 1971.

The mechanism of action of clomacran phosphate (CLO), an antipsychotic drug, on the biological electron transport chain was investigated in the organism *Pseudomonas saccharophila*. The oxidation of NADH and succinate was measured polarographically. About 60% inhibition of the NADH oxidase occurred in the presence of 0.2mM CLO, while the same concentration of chlorpromazine caused about 100%inhibition. The same concentration of 9-aminomethylacridan (AMA), structurally similar to CLO, showed only 37%inhibition of electron transport. Although the respiration, phosphorylation and the reverse electron flow processes were not equally sensitive to CLO or AMA, the results indicate that the suppression by these inhibitors of respiration and coupled phosphorylation, occur at a component not common to the NADH oxidase and succinate oxidase systems. 9 references.

**088284 Kuriyama, Kinya; Rauscher, Gregory E.; Sze, Paul Y.** Department of Psychiatry, State University of New York, Downstate Medical Center, Brooklyn, New York 11203 Effect of acute and chronic administration of ethanol on the 5-hydroxytryptamine turnover and tryptophan hydroxylase activity of the mouse brain. *Brain Research (Amsterdam)*. 26(2):450-454, 1971.

The effect of acute and chronic administration of ethanol in the 5-hydroxytryptamine (5-HT) turnover and tryptophan hydroxylase activity of the brain is investigated in Swiss albino mice. Acutely treated mice received 4g/kg body weight of ethanol intraperitoneally. To study the effect of chronic ethanol administration, mice were fed only a liquid diet which included 6% (w/v) ethanol. Caloric and quantitative conditions for

control animals were held as close as possible to experimental conditions with sucrose and saline or water. Ethanol and corticosterone levels were determined in plasma, and the biosynthetic rate of 5-HT in brain was measured from the initial rate of 5-HT accumulation after blocking the monoamine oxidase by injection of pargyline. It was found that acute administration of ethanol decreased slightly but nonsignificantly the rate of 5-HT biosynthesis in brain. However, the rate of 5-HT biosynthesis in animals treated 14 days with ethanol was 97% higher than the control values. Even 8 days of ethanol administration gave a statistically significant increase. The tryptophan hydroxylase activities in both brain homogenate and crude mitochondrial fraction from mice treated for 14 days with ethanol were 24 and 22% respectively higher than control values, whereas acute administration of ethanol induces no significant inhibition. The results clearly indicate that the effect of chronic ethanol administration on the cerebral 5-HT biosynthesis is distinct from the effects of acute ethanol administration. The increase in the rate of 5-HT biosynthesis and the increase in tryptophan hydroxylase activity, the rate limiting enzyme of the 5-HT biosynthesis clearly showed that the chronic and continuous administration of ethanol induces the increase of 5-HT biosynthesis in the brain. Some discrepancies in the data are noted and discussed. 23 references.

**088285 Sellinger, Otto Z.; Nordrum, Linda M.; Idoyaga-Vargas, Victor.** Mental Health Research Institute, University of Michigan Medical Center, Ann Arbor, Michigan 48104 Cerebral lysosomes: VI. the in vivo uptake of Triton-WR-1339 by the lysosomes of the immature cerebral cortex and cerebellum. *Brain Research (Amsterdam)*. 26(2):361-373, 1971.

The detergent Triton-WR-1339 was injected intrathecally into immature rats and its uptake by the lysosomes of the cerebral cortex and the cerebellum was demonstrated. Uptake was assessed in vitro by examining the shift of the lysosomes to centrifugal fractions sedimenting at lower speeds than those commonly yielding these granules from control brains. This shift was maximal after 3 daily injections of Triton when aryl-sulfatase and N-acetyl-beta-D-glucosaminidase, the 2 lysosomal hydrolases studied, exhibited peaks of relative specific activity (RSA) in fractions known to contain myelin fragments and nerve endings rather than in the heavier fraction

known to concentrate lysosomes. A significant proportion of the cortical and cerebellar lysosomes failed to take up the detergent even after 3 days of continued administration. The apparent irreversibility of the uptake process was suggested by the finding that the RSA values for the 2 hydrolases were still highest in the myelin and light nerve ending fractions 4 days after the administration of Triton-WR-1339 had been discontinued. Sedimentation in linear density gradients of sucrose readily separated the populations of Triton filled and Triton devoid lysosomes. The results demonstrate the ability of cerebral lysosomes to perform a functional task characteristic of their extracerebral counterparts. It has not been established whether the uptake of Triton-WR-1339 was selective into the lysosomes of neuronal or glial cells or whether it proceeded uniformly into both cell types. 21 references. (Author abstract)

**088290** Miller, L. G.; Fincher, J. H. Department of Pharmaceutics, School of Pharmacy, University of Mississippi, University, Mississippi 38677 Particle size influences in parenteral therapy: phenobarbital study. Research Report, NIMH Grant MH-17865, 14 p.

The influences of particle size of phenobarbital in parenteral therapy is studied by administering phenobarbital suspensions containing particles of various size ranges intramuscularly to healthy, male beagle dogs. The particle size of the dose affected the blood level versus time curves. A comparison of the areas under the curves with the respective particle sizes indicated that particle size influenced the biological availability of phenobarbital. These data suggest that by controlling the particle size distribution one may be able to regulate the duration of action of phenobarbital. 5 references. (Author abstract modified)

**088486** Votavova, M.; Boullin, D. J.; Costa, E. National Institute of Mental Health, Saint Elizabeths Hospital, William A. White Building, Washington, D. C. 20032 Specificity of action of 6-hydroxydopamine in peripheral cat tissues: depletion of noradrenaline without depletion of 5-hydroxytryptamine. *Life Sciences (Oxford)*. 10(2):87-91, 1971.

Cats injected with 6-hydroxydopamine (6-OHDM) (20mg/kg followed by 50mg/kg 14 days later) showed a severe depletion of noradrenaline

(NA), 64 to 90%, from many peripheral tissues except the lung, while 5-hydroxytryptamine (5-HT) concentrations were normal in all instances. These results indicate the specificity of action of 6-OHDM in depleting NA from peripheral neurons because earlier work indicates that NA in the lung is not stored in neurons. The failure of 6-OHDM to affect 5-HT stores indicates that the indolylalkylamine is definitely not present in sympathetic nerves, but is probably stored in either mast and chromaffin cells or serotonergic nerves in some tissues. 14 references. (author abstract modified)

**088517** Klubes, P.; Fay, P. J.; Cerna, I. Department of Pharmacology, The George Washington University School of Medicine, Washington, D.C. 20005 Effects of chlorpromazine on cell wall biosynthesis and incorporation of orotic acid into nucleic acids in *Bacillus megaterium*. *Biochemical Pharmacology*. 20(2):265-277, 1971.

The microorganism *Bacillus megaterium* was used as a model system for the study of the biochemical basis of action of chlorpromazine. At 33 microM, chlorpromazine (10 microg/ml) doubled the generation time of logarithmic phase cultures of *B. megaterium*. The effect of the drug on the incorporation of labeled precursors for macromolecules was compared at equivalent turbidities. Incorporation of 14C-orotic acid into RNA and DNA was immediately inhibited. In contrast, incorporation of 14C-adenine, 14C-formate and 14C-thymidine into nucleic acids was unaffected, indicating that nucleic acid synthesis was normal despite interference by the drug in the utilization of exogenous orotic acid. Incorporation of 14C-L-lysine was unaffected, but chlorpromazine immediately inhibited the incorporation of 14-C-diaminopimelic acid into cell wall. Uridine nucleotide precursors (colorimetric assay) for glycopeptide polymer of cell wall accumulated promptly upon addition of the drug. Accumulation was dose dependent and reached 8 times that of control cells. Other phenothiazines including trifluoperazine (3 microM), promazine (58 microM), promethazine (156 microM) and chlorpromazine sulfoxide (2 mM) also caused significant accumulation of cell wall precursors. Although the mechanism of action is unknown, it appears that chlorpromazine specifically interferes with cell wall synthesis in *B. megaterium*. 39 references. (author abstract)

**088539** Lewander, Tommy. Psychiatric Research Center, Ulleraker Hospital, University of Uppsala, Uppsala, Sweden Effects of acute and chronic amphetamine intoxication on brain catecholamines in the guinea pig. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(2-3):209-225, 1971.

The effects of amphetamine on central and peripheral catecholamines have been studied in guinea pigs, since in this species, unlike several others, amphetamine is not metabolized by p-hydroxylation. Twenty mg/kg of dl-amphetamine sulphate given intraperitoneally caused a 40% decrease in brain and heart noradrenaline, a 13% decrease in brain dopamine and a 60% decrease in homovanillic acid in the caudate nucleus, 4 hours after its administration. The changes in tissue catecholamine levels and the increase in motor activity followed the time course of the amphetamine concentrations both in the brain and plasma. After chronic administration of amphetamine at 12 hourly intervals for 7 or 18 days, there was a further decrease in brain and heart catecholamine and homovanillic acid levels. A 4 fold increase in the 3-O-methylated metabolites of noradrenaline and dopamine in brain after the administration of amphetamine to guinea pigs pretreated with nialamide and an increase in the urinary excretion of noradrenaline (13 fold) and adrenaline (3 fold) provided evidence for an amphetamine induced release of central and peripheral catecholamines as has previously been reported in rats and cats. Amphetamine disappeared from brain and plasma with an apparent half-life of 2.5 to 3.1 hours. Only amphetamine and hippuric acid were recovered in the urine after the administration of radioactively labelled amphetamine. No p-hydroxylated or beta-hydroxylated metabolites of amphetamine were present in the brain or heart tissues in the guinea pig. The results show that acute and chronic amphetamine administration causes changes in endogenous catecholamines in guinea pigs similar to those found previously in rats in spite of differences in the metabolism of amphetamine between the two species. 56 references. (author abstract)

**088543** Marczynski, T. J. Department of Pharmacology, University of Illinois at the Medical Center, Chicago, Illinois 60612 Cholinergic mechanism determines the occurrence of reward contingent positive variation (RCPV) in cat. *Brain Research (Amsterdam)*. 28(1):71-83, 1971.

The effects of anticholinergic drugs (atropine and scopolamine) and an cholinesterase inhibitor, physostigmine were studied with regard to their action on post-reinforcement EEG synchronization (PRS) and associated epicortical steady potential shift (Reward Contingent Positive Variation; RCPV) in cats trained to press a lever for milk reward. Atropine sulfate (0.7 to 0.95 mg/kg, i.m.) or scopolamine hydrobromide (0.07 to 0.09 mg/kg, i.m.), but not peripherally acting scopolamine methylbromide, blocked the PRS - RCPV responses and the background desynchronization of the ECoG patterns. Subsequent administration of physostigmine salicylate (0.075 mg/kg, i.m.) promptly restored both the PRS-RCPV responses and the desynchronized background ECoG patterns. Physostigmine alone, administered to subjects whose peripheral muscarinic receptor sites were blocked by scopolamine methylbromide (0.07 to 0.1 mg/kg, i.m.), also abolished the PRS-RCPV responses. There are 2 functionally antagonistic cholinergic synaptic mechanisms in the visual cortex of the cat: one responsible for rhythmic phasing of neuronal activity at an average frequency of 7.8 c/sec during PRS - RCPV responses, presumably based on recurrent hyperpolarizing inhibition, and the other, responsible for desynchronization of the ECoG activity through a blocking action on the synchronizing mechanism. 27 references. (author abstract modified)

**088546** Black, Ira B. Department of Pharmacology, University of Cambridge Medical School, Hills Road, Cambridge CB2 2QD, England Pyridoxal-5'-phosphate - an inhibitor of catechol-o-methyltransferase in vitro. *Biochemical Pharmacology*. 20(4):924-927, 1971.

The inhibition of catechol-o-methyltransferase (COMT) in vitro is described, by the naturally occurring vitamin, pyridoxal-5'-phosphate (PLP). The enzyme preparation was obtained from homogenized rat livers and contained approximately 25 mg/ml of protein. PLP, over the range of 0.00001 M to 0.0001 M was associated with up to 90% inhibition of COMT, and this inhibition was competitive with the norepinephrine substrate. Such competitive inhibition could result from competition of PLP with norepinephrine for enzyme binding sites or a complex of PLP with norepinephrine in which PLP competes with the enzyme for the binding of norepinephrine. This latter possibility was investigated by the use of a

catechol which does not form a complex with PLP, and found that PLP was equally inhibitory. The mechanism of inhibition has not been defined, but the findings may imply that vitamin coenzymes function as regulator molecules through enzyme inhibition as well as activation. 10 references.

**088557 Castells, S.; Shirali, S.** Department of Pediatrics, S.U.N.Y., Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, New York Daily rhythmic changes in hepatic phenylalanine hydroxylase activity: role of dietary phenylalanine. *Life Sciences (Oxford)*. 10(4):233-239, 1971.

Phenylalanine hydroxylase has a circadian rhythmicity in the rat liver. Fasted rats have a lower phenylalanine hydroxylase activity than rats fed ad libitum, but the circadian rhythmicity persists. Since breakdown of body proteins maintains blood levels of phenylalanine, the lower phenylalanine hydroxylase activity in the fasted rats seems to be independent of phenylalanine blood levels. In rats on high phenylalanine intake the peak in blood phenylalanine coincides in time with the peak enzyme activity in the liver. Phenylalanine blood levels affect the extent and duration of the maximum enzyme activity in rats with high phenylalanine intake. In rats on Chow diets or in rats receiving comparable or lower levels of phenylalanine, the circadian rhythm of phenylalanine hydroxylase appears to be independent of phenylalanine blood levels. 12 references. (author abstract)

**088558 Kuriyama, Kinya; Sze, Paul Y.; Rauscher, Gregory E.** Department of Psychiatry, State University of New York, Downstate Medical Center, Brooklyn, New York Effects of acute and chronic ethanol administration on ribosomal protein synthesis in mouse brain and liver. *Life Sciences (Oxford)*. 10(4):181-189, 1971.

The effect of ethanol on protein synthesis was studied in mouse brain and liver ribosomal preparations after acute and chronic administration of ethanol in vivo as well as after addition of ethanol in vitro. Incorporation of amino acid into protein was reduced in both brain and liver ribosomes 1.5 to 3 hours after a single administration of ethanol. The reduction was not temporally correlated with the elevation of blood level of ethanol and the degree of central depression. The ribosomal protein synthesis is rather insensitive to the in vitro addition of ethanol, as compared with

the in vivo administration. The inhibition of protein synthesis in ribosomal preparations from acutely intoxicated animals may be due to transient alteration of either the ribosomal structure or the content of the associated messenger RNA. Chronic and continuous ingestion of ethanol (7 to 14 days) induces a stimulation of protein synthesis in brain and liver ribosomal systems, as well as an elevation of plasma corticosterone level. 26 references. (author abstract)

**088577 Boggan, William O.; Seiden, Lewis S.** Department of Pharmacology, University of Chicago, Chicago, Illinois 60637 Dopa reversal of reserpine enhancement of audiogenic seizure susceptibility in mice. *Physiology and Behavior*. 6(3):215-217, 1971.

Increased sensitivity to audiogenic seizures induced by reserpine was antagonized by dopa. The antagonism was dependent upon the conversion of dopa to dopamine in brain since blockade of both cerebral and extracerebral decarboxylase prevented the dopa effect, whereas blockade of extracerebral decarboxylase only did not affect the dopa antagonism. Increased seizure susceptibility occurred when brain levels of norepinephrine and dopamine (DA) were significantly lowered, while decreased susceptibility was found when brain levels of DA were significantly elevated. The results of this study indicate that dopamine plays a role in protection against audiogenic seizures in mice. 17 references. (author abstract)

**088626 Kamada, Nanao; Brecher, George; Tjio, Joe-Hin.** Division of Clinical Pathology and Laboratory Medicine, University of California, San Francisco Medical Center, California 94122 In vitro effects of chlorpromazine and meprobamate on blast transformation and chromosomes. *Proceedings of the Society for Experimental Biology and Medicine*. 136(1):210-214, 1971.

The effects of chlorpromazine (CPZ) and meprobamate on chromosomes, blast transformation, and mitotic index were investigated in primary cultures of normal human leukocytes. Neither chlorpromazine nor meprobamate raised the rate of chromosome aberrations, when added at different times and in various concentrations. CPZ at a concentration of 0.00002 M decreased the number of blast cells but increased the mitotic index in 72 hour cultures if added during the first 18 hr. The increase in the mitotic index is apparently due to metaphase arrest caused by

mitotic spindle suppression (C-mitosis effect). Alternatively, an effect of CPZ on the cell membrane may be responsible. 18 references. (author abstract modified)

**088637** Peskar, B.; Hellmann, G.; Hertting, G. Institute of Pharmacology of the University of Vienna, Wahringerstrasse 13a, A-1090 Vienna, Austria Demonstration of 3,4-dihydroxy(14C)benzoic acid and (14C)vanillic acid after administration of (14C)noradrenaline in the rat. *Journal of Pharmacy and Pharmacology (London)*. 23(4):270-275, 1971.

Rats were injected with 40 microCi (plus or minus) (1-3H)noradrenaline and 10 microCi (plus or minus) (1-14C)noradrenaline. Three fractions with a decreased 3H:14C ratio were isolated from the urine by a combined alumina adsorption ethyl acetate extraction procedure. Two of the fractions were identified as (14C)vanillic acid and 3,4-dihydroxy(14C)benzoic acid, respectively. Vanillic acid represented between 1.5 and 3.0% of the total (14C)activity excreted within 24 h and the contribution of dihydroxybenzoic acid was 0.2 to 0.5%. The third fraction with a decreased 3H:14C ratio has not been identified and represented about 2% of the total (14C) activity excreted within 24 h. After monoamine oxidase blockade with 100mg/kg of iproniazid, the excretion of vanillic acid, 3,4-dihydroxybenzoic acid and the unknown fraction was greatly diminished. The probability that these 3 substances represent those metabolites arising simultaneously with the formation of tritium water from (1-3H)noradrenaline is discussed. 15 references. (author abstract)

**088639** Ho, Beng T.; Fritchie, G. Edward; Englert, Leo F.; McIsaac, William M.; Idanpaan-Heikkila, J. E. Texas Research Institute of Mental Sciences, Houston, Texas 77025 Marijuana: Importance of the route of administration. *Journal of Pharmacy and Pharmacology (London)*. 23(4):309-310, 1971.

In a letter to the editor, a research study is reported of the absorption of 1-delta-9-tetrahydrocannabinol (THC) by the various conventional routes of administration. Delta-9-tetrahydrocannabinol is insoluble in water. Tritiated THC was administered to rats as a suspension intraperitoneally and intravenously, and autoradiographs prepared from the slaughtered animals. The THC administered intraperitoneally remained in the abdominal cavity,

with little absorption and distribution to other tissue. The same dose given intravenously was distributed throughout the body, including the CNS, within 5 min. The route of administration is therefore a main consideration when administering the drug to study its behavioral effects. 6 references.

**088641** Mason, P. L.; Rogers, H. J. Department of Pharmacology, Guy's Hospital Medical School, London, S.E.1, England The influence of hypothermia on chlorpromazine-induced metabolic changes in mouse heart and brain. *Journal of Pharmacy and Pharmacology (London)*. 23(4):299-301, 1971.

The effects of chlorpromazine on total 14C-glucose uptake and incorporation in the protein of heart and brain was studied in mice, and the significance of chlorpromazine hypothermia in explaining the results was also investigated. A 20mg/kg dose of chlorpromazine reduced the mean body temperature from 37.4 degrees C to 29.2 degrees. There was not significant change in total uptake or incorporation into protein of heart tissue after administration of chlorpromazine in either hypothermic or normothermic mice. However, a significant reduction in the percentage incorporation into cerebral protein was shown in hypothermic chlorpromazine treated mice. Thus the effect of chlorpromazine in decreasing the rate of cerebral protein synthesis may not be a primary effect on protein synthesizing mechanisms but could be secondary to the hypothermia induced by the drug. 11 references.

**088646** Czerniak, Pinchas; Haim, David Ben. Tel-Hashomer Hospital, Tel Aviv University Medical School, Tel-Hashomer, Israel Phenothiazine derivatives and brain zinc. *Archives of Neurology*. 24(6):555-560, 1971.

Normal topographic brain zinc localization and the influence of 3 phenothiazine tranquilizers (chlorpromazine, thioridazine, perphenazine) were studied in vitro and in vivo in 8 brain regions of 80 mice and 80 rats, from one hour till 21 days after injection of 5 and 15 microcuries of zinc chloride Zn-65, respectively. Brains of untreated animals took up 0.11%, 0.24% (maximum), and 0.16% of dose per gram, one hour, 7 and 21 days respectively, after injection. Each of the phenothiazine compounds increases the total brain zinc uptake in all animals, more in rats than in mice. Regional changes were detected in rat brains: the occipitotemporal cortex, thalamus, and hippocampus are more zincophilic, the thalamus

especially under chlorpromazine and the hippocampus under perphenazine treatment. 9 references. (author abstract)

**088665** Hanig, Ruth C.; Aprison, M. H. Department of Chemistry, Indiana University, Kokomo, Indiana The effect of 5-hydroxytryptophan and reserpine administration on the level of sodium, potassium, calcium, magnesium and chloride in five discrete areas of the rabbit brain. *Life Sciences (Oxford)*. 10(5):279-286, 1971.

Potassium, sodium, magnesium, calcium, chloride and water content in 5 discrete areas of the brain of rabbits were measured after the intravenous injection of either D, L-5-hydroxytryptophan or reserpine. The total potassium content in the cerebral cortex and the paleothalamic nuclei increased significantly after administration of either drug. After reserpine administration, an increase in the total potassium content of the caudate nuclei was also observed. No changes were found in the concentration of any of the other ions studied except for a decrease in chloride content of the caudate nuclei after 5-hydroxytryptophan injection. 12 references. (author abstract)

**088685** Selden, Lewis S.; Martin, Teackle W., Jr. Department of Pharmacology, The University of Chicago, Chicago, Illinois 60637 Potentiation of effects of L-dopa on conditioned avoidance behavior by inhibition of extracerebral dopa decarboxylase. *Physiology and Behavior*. 6(4):453-458, 1971.

It has been found that it is possible to completely inhibit extracerebral dopa decarboxylase without inhibiting or only partially inhibiting cerebral decarboxylase by using suitable doses (25 to 50mg/kg) of the compound, Ro-4-4602 (N-(diiseryl)-N-(2,3,4-trihydroxybenzylhydrazine)). Mice were trained to perform a conditioned avoidance response (CAR), and treated with reserpine (2.5mg/kg), followed by Ro-4-4602 (25mg/kg) followed by L-dopa (100 to 400mg/kg); control animals were treated with identical doses of reserpine and L-dopa but saline instead of Ro-4-4602. L-dopa reversed a reserpine induced suppression of the CAR, and this reversal was potentiated by Ro-4-4602. In addition, Ro-4-4602 caused blockade of sympathomimetic effects of L-dopa. Catecholamine assay in groups receiving parallel treatment revealed that no dopamine was synthesized in heart from L-dopa in mice pretreated with Ro-4-4602 but that there was a rise in brain levels of dopamine. These results indicate that ex-

tracerebral conversion of dopa to dopamine is not essential to the reversal of a reserpine induced suppression of a conditioned avoidance response. 17 references. (author abstract)

**088702** Shein, Harvey M.; Wilson, Susan; Larin, Frances; Wurtman, Richard J. McLean Hospital Research Laboratory, Belmont, Massachusetts Stimulation of (14C) serotonin synthesis from (14C) tryptophan by mescaline in rat pineal organ cultures. *Life Sciences (Oxford)*. 10(5):273-282, 1971.

Addition of mescaline to the nutrient medium of rat pineal glands in organ culture produces a marked increase in pineal synthesis of serotonin from 14C-tryptophan. By contrast, addition of psilocybin or lysergic acid diethylamide (LSD) has no effect on 14C-serotonin synthesis by these cultures. Mescaline has no effect on pineal 14C-serotonin synthesis when 14C-5-hydroxytryptophan is substituted for 14C-tryptophan as the labelled substrate. Mescaline does not inhibit the deamination of 14C-serotonin to 5-hydroxyindoleacetic acid and has no significant effect on the intracellular content of 14C-tryptophan or its conversion to 14C-protein. It is concluded that mescaline stimulates pineal 14C-serotonin synthesis via a primary stimulatory action on the enzymatic conversion of 14C-tryptophan to 5-hydroxytryptophan, rather than by effects on other steps in the indole pathway or on cellular uptake of 14C-tryptophan. 13 references. (author abstract)

**088706** Breese, G. R.; Traylor, T. D. Department of Psychiatry, University of North Carolina School of Medicine, Chapel Hill, North Carolina Depletion of brain noradrenaline and dopamine by 6-hydroxydopamine. *British Journal of Pharmacology (London)*. 42(1):88-99, 1971.

After intracisternal administration, 6-hydroxydopamine had a greater effect on brain noradrenaline than on dopamine. Administration of 2 doses of 6-hydroxydopamine increased the depletion of noradrenaline but not of dopamine. Small doses of 6-hydroxydopamine decreased the concentration of noradrenaline with little or no effect on dopamine. Tyrosine hydroxylase activity was not reduced with these treatments. While pargyline pretreatment offered no advantage in the depletion of brain noradrenaline after 6-hydroxydopamine, depletion of brain dopamine was greatly potentiated by this treatment. The reduction of striatal tyrosine hydroxylase activity observed after 6-hydroxydopamine was also poten-

tiated by pargyline pretreatment. The amounts of labelled noradrenaline and dopamine formed from 3H-tyrosine were greatly reduced by 6-hydroxydopamine treatment. After 3H-DOPA, formation of noradrenaline was greatly reduced while formation of labelled dopamine was only moderately reduced suggesting that decarboxylation of DOPA can occur in other than catecholamine containing neurones. Desmethylimipramine and imipramine inhibited depletion of noradrenaline produced by 6-hydroxydopamine but did not alter depletion of dopamine. Reserpine did not inhibit depletion of catecholamines produced by 6-hydroxydopamine. Administration of 6-hydroxydopamine to developing rats lowered both noradrenaline and dopamine concentrations as well as the tyrosine hydroxylase activity in the brains of these animals. 34 references. (author abstract)

088732 Singh, J. M. Department of Pharmacology, Xavier University of Louisiana, College of Pharmacy, New Orleans, Louisiana 70125 Comparison between acute and chronic administration of ethyl alcohol on the development of tolerance to pentobarbital. *Archives Internationales de Pharmacodynamie et de Therapie (Gand)*. 189(1):123-128, 1971.

The developed tolerance to pentobarbital in rats, 30mg/kg, i.e. decreased hypnotic effect or sleeping time on subsequent administrations, was reversed by acute rectal administration of certain doses of ethyl alcohol (1.495 and 2.243g/kg) since the percentage tolerance index (Percentage tolerance Index equals Hypnotic effect of dose 1/Hypnotic effect of dose 2 or subsequent doses, then multiplying the ratio by 100) was 90.4 and 112.6 on the 4th injection as compared to 143.4 and 129.5 of the 2nd injection. Twenty ml/kg of 1.495 and 2.243 g/kg of ethyl alcohol, which reversed the developed tolerance to pentobarbital, i.e. the sleeping time or hypnotic effect when restored to normal value did not reverse but enhanced the process of tolerance in chronically ethyl alcohol treated animals. Therefore, the acute rectal administration of ethyl alcohol can reverse the developed tolerance to pentobarbital whereas chronic ethyl alcohol treatment would enhance the developed tolerance. 9 references. (author abstract)

088733 Baker, W. W.; Kratky, M. Department of Neuropharmacology, Eastern Pennsylvania Psychiatric Institute, Philadelphia, Pennsylvania

Suppression of hippocampal DFP discharges by chlorpromazine, imipramine and desipramine. *Archives Internationales de Pharmacodynamie et de Therapie (Gand)*. 189(1):109-122, 1971.

Acute effects of chlorpromazine, imipramine, or desipramine administered i.v. or microinjected intrahippocampally (I.H.) were studied in cats on continuous hippocampal discharges; these discharges of cholinergic origin were established by I.H. microinjection of the anticholinesterase diisopropylfluorophosphate (DFP). When administered i.v. all 3 agents, without initially stimulating, reduced the intensity and subsequently abolished the discharges. Modification of the extrahippocampal inputs was suggested as an indirect mechanism through which the psychotropic drugs reduced the excitability of the hippocampus; however, they also acted directly on the hippocampus to alter local activity. At small I.H. doses each drug enhanced the discharges, but at higher cumulative doses totally suppressed all activity. Desipramine produced also an early transitional phase of cycling with alternate periods of waxing and waning of the discharges. Suppression of the discharges by the psychotropic drugs was attributed to an hypothesized local stabilizing effect involving norepinephrine as well as to a central cholinolytic action. It is concluded that in this system the psychotherapeutic drugs chlorpromazine, imipramine and desipramine differ only quantitatively from one another in stabilizing hippocampal activity. 30 references. (author abstract)

088994 Algeri, S.; Costa, E. Laboratory of Preclinical Pharmacology, National Institute of Mental Health, Saint Elizabeths Hospital, Washington, D. C. 20032 Physical dependence on morphine fails to increase serotonin turnover rate in rat brain. *Biochemical Pharmacology*. 20(4):877-884, 1971.

Rats were made dependent on morphine by pellet implantation. Injections of nalorphine (50mg/kg, i.p.) elicited a withdrawal syndrome characterized by hypothermia, salivation, lacrimation, urge to escape, wet dog shakes and squeaking. Pretreatment with p-chlorophenylalanine (300mg/kg, i.p./day for 5 days) did not lessen the severity of the withdrawal precipitated by nalorphine. Isotopic and nonisotopic measurement of brain norepinephrine and serotonin turnover rates shows that morphine dependence fails to change these rates. 21 references. (author abstract)

089016 Pasley, James N.; Christian, John J. Department of Physiology and Biophysics, University of Arkansas Medical Center, Little Rock, Arkansas 72201 Effects of ACTH on voles (*Microtus pennsylvanicus*) related to reproductive function and renal disease. *Proceedings of the Society for Experimental Biology and Medicine*. 137(1):268-272, 1971.

The inhibitory action of ACTH on reproductive function is thought to be due to inhibition of secretion of pituitary gonadotropins by acting at the level of the pituitary or higher since ACTH inhibits reproductive function in adrenalectomized mice. Because of the importance of voles in population research and species differences, the effects of ACTH on the reproductive organs and kidneys of male and female meadow voles (*Microtus Pennsylvanicus*) were studied. Reproductive function in *Microtus pennsylvanicus* appears to be quite sensitive to inhibition by ACTH while renal glomeruli of voles are remarkably resistant to ACTH. The effects of ACTH on *Microtus* reproductive function are similar to what has been found in female house mice and both sexes of *Peromyscus*, that is, inhibition of sexual maturation, spermatogenesis, and reproductive function, ACTH had no apparent effect on the renal glomeruli of *Microtus*. 13 references. (author abstract modified)

089026 Feltz, Paul. Department of Research in Anaesthesia, McIntyre Building, McGill University, Montreal 110, P. Q., Canada Sensitivity to haloperidol of caudate neurones excited by nigral stimulation. *European Journal of Pharmacology (Amsterdam)*. 14(4):360-364, 1971.

Electrophysiological investigations in the cat have revealed a slow conducting excitatory pathway from the substantia nigra (SN) to the caudate nucleus (Cd). The action of the neuroleptic haloperidol (HPD) was tested on this nigrostriatal excitatory synaptic input in 22 cats. A technique was developed combining multibarrelled glass microelectrode recordings with local superfusion of the Cd. HPD had a prolonged reversible blocking action on caudate neurones excited orthodromically by substantia nigra stimulation. These cells were unaffected by microiontophoretic applications of dopamine. 17 references. (author abstract modified)

089048 Costa, E.; Groppetti, A.; Revuelta, A. Laboratory of Preclinical Pharmacology, National Institute of Mental Health, Saint Elizabeths

Hospital, Washington, D. C. 20032 Action of fenfluramine on monoamine stores of rat tissues. *British Journal of Pharmacology (London)*. 41(1):57-64, 1971.

Fenfluramine is an anorexogenic agent used clinically because it is devoid of central stimulatory effects. In rats, fenfluramine causes a depletion of 5-hydroxytryptamine (5-HT) from the telencephalon + diencephalon which lasts longer than might be expected from the biological half life of fenfluramine. The depleting effects of fenfluramine do not extend to brainstem, stomach and heart stores of 5-HT. Fenfluramine causes an increase in the turnover rate of tel-diencephalic 5-HT but such an acceleration could not be detected in the 5-HT stores of the brainstem. It is inferred that the effects of fenfluramine on brain 5-hydroxytryptamine may be related to the accumulation of a fenfluramine metabolite in 5-HT neurones. High doses of fenfluramine cause a depletion of catecholamine stores in brain and heart but the time course of this depletion is shorter than the depletion of brain 5-HT. 12 references. (author abstract)

089049 Mikikits, W.; Skinner, A.; Spector, R. G.; Watts, D. C. Department of Pharmacology, Guy's Hospital Medical School, London, England Influence of pH on aggregation and protein binding of barbituric acid and amylobarbitone. *British Journal of Pharmacology (London)*. 41(1):76-83, 1971.

Cryoscopic methods indicated that barbituric acid exists in aqueous solution as a monomer. Amylobarbitone is a monomer at pH 8, but appears to be polymerized at pH 2. The size of the oligomers increases with drug concentration. Using a non-equilibrium dialysis technique supportive evidence for the monomeric form of barbituric acid and the polymerization of amylobarbitone was obtained. The degree of polymerization appeared to increase with fall in pH. Binding constants for these barbiturates with bovine serum albumin were derived, but in acid media no binding was observed. 8 references. (author abstract)

089050 Datta, K.; Thal, L.; Wajda, I. J. Kings County Medical Center, Department of Medicine, 451 Clarkson Avenue, Brooklyn, New York 11203 Effects of morphine on choline acetyltransferase levels in the caudate nucleus of the rat. *British Journal of Pharmacology (London)*. 41(1):84-93, 1971.

Numerous theories have been proposed in recent years to explain morphine addiction on a biochemical basis. It is generally accepted that biochemical alterations in the CNS play an important role. Choline acetyltransferase concentrations were determined in the caudate nucleus, thalamus, and cortex of control and morphine treated rats. The enzyme was assayed using a modified radio-chemical method on a number of selected days, 1 hour after the last injection of 30mg/kg of morphine and also during the subsequent phase of abstinence from morphine. Significant lowering of choline acetyltransferase activity in the caudate nucleus area was found in two cases, 1 hour after the first dose of morphine and upon subsequent abstinence from morphine. The enzyme activity in the 2 other parts of the brain remained at the normal levels. The relationship of a possible effect of morphine on the tissue binding of the enzyme and the subsequent lowering of its activity was tested by homogenization of the caudate nucleus area in different media. The decrease in enzyme activity occurred in all extraction media 1 hour after morphine administration. Inhibitory effects of in vitro addition of morphine to caudate nucleus homogenate, obtained from normal and morphine treated rats, were found to occur only at very high concentrations of the drug, negating the possibility of direct inhibitory effects of morphine. These experiments suggest 2 possible causes of the observed effects, which can be responsible for the lowering of enzyme activity, and can be operative simultaneously: a negative feedback mechanism of accumulated acetylcholine, occurring after the first dose of morphine, and the possible changes in enzyme configuration produced by morphine treatment. 24 references. (author abstract modified)

**089098 Reigle, T. G.; Wolf, H. H.** Division of Pharmacology, College of Pharmacy, Ohio State University, Columbus, Ohio 43210 The effects of centrally administered chlorpromazine on temperature regulation in the hamster. *Life Sciences (Oxford)*. 10(3):121-132, 1971.

The injection of 12.5 to 37.5 microg of CPZ into the anterior hypothalamus of hamsters has been shown to elicit an immediate, dose dependent hypothermia when the experiments are conducted at a low environmental temperature. A 50 microg dose of CPZ sulfoxide produced only a slight fall in rectal temperature comparable to that obtained following the lowest dose of CPZ. The CPZ response was not antagonized by an equimolar

dose of atropine and was not accompanied by changes in EMG or skin temperature indicative of interference with the thermoregulatory mechanisms of shivering and peripheral vascular tone. However, undetected vascular changes may have occurred. These results are consistent with the possibility that the effect of CPZ on the central control of body temperature in the hamster may be mediated through its influence on non-shivering thermogenesis. 23 references. (author abstract)

**089136 Krulik, Radoslav; Cerny, Milan.** Psychiatric Research Unit, Medical School, Charles University, Prague, Czechoslovakia Effect of chlordiazepoxide on stress in rats. *Life Sciences (Oxford)*. 10(3):145-151, 1971.

Chlordiazepoxide or diazepam injected to rats subcutaneously in daily doses of 15mg/kg or 5mg/kg, respectively, did not affect the weight and cholesterol content of adrenals. Excretion of corticosterone in urine was not affected either. The blood levels of corticosterone was decreased slightly after the application of chlordiazepoxide and significantly after the application of diazepam. A single stress load induced by electric current lasting 30 minutes caused threefold increase of corticosterone level in blood. Chlordiazepoxide or diazepam injected to the animals before the stress decreased significantly the level of corticosterone in blood of stressed animals. Immediately after stress the concentration of corticosterone in blood of stressed animals was decreased following chlordiazepoxide administration. In the 'adaptation phase' observed in the third hour following the stress, the level of corticosterone in blood was increased. During the same period of time following administration of chlordiazepoxide the level of corticosterone in blood was not increased. In the fifth hour after the stress the levels of corticosterone in blood in stressed animals not treated with chlordiazepoxide were similar to the levels of corticosterone in blood of animals after the administration of chlordiazepoxide. 14 references. (author abstract modified)

**089284 Whelan, Gregory; Hoch, Jane; Schenker, Steven; Combes, Burton.** Royal Free Hospital, London, England Impaired biliary excretion of phenol 3, 6-dibromophthalein disulfonate in neonatal guinea pigs. *Proceedings of the Society for Experimental Biology and Medicine*. 137(2):598-603, 1971.

Hepatic disposition of phenol 3, 6-dibromophthalein disulfonate (DiBSP) was studied in adult and newborn guinea pigs from days 2 through 16 of life after intravenous administration of DiBSP in doses sufficient to achieve maximal rates of dye excretion into bile. Neonatal guinea pigs showed a significant reduction into bile when compared to adult animals. A minimal estimate of hepatic uptake of DiBSP showed that uptake was similar in neonatal and adult animals and was significantly greater than the maximal rates of excretion into bile. Hence hepatic uptake did not limit hepatic disposition of DiBSP. With aging, injected DiBSP was excreted at progressively more rapid rates reaching adult levels of excretion at the beginning of the second week of life. This study demonstrates the presence of a defect in the excretory process by which DiBSP is transported from liver cells into bile in the neonatal guinea pig. 7 references. (author abstract)

089285 Tseng, Tsiu-Chin; Wang, S.C. Department of Pharmacology, Johns Hopkins University, Baltimore, Maryland. Locus of central depressant action of some benzodiazepine analogues. *Proceedings of the Society for Experimental Biology and Medicine*. 137(2):526-531, 1971.

In midcollicular decerebrate cats, four benzodiazepine analogues, Ro 5-4023, Ro 5-3059 (nitrazepam), Ro 5-3350, Ro 5-6901 (Dalmane) were found to be very effective in blocking spinal polysynaptic reflexes. Subsequent to spinal cord transection during the period of drug induced depression, these reflexes returned and became highly resistant to depression by these drugs. With stimulation experiments, these 4 agents depressed both the reticular facilitatory and inhibitory effects on the knee jerk. It was concluded that these drugs act mainly on supraspinal structures, most likely in the brainstem reticular system. 14 references. (author abstract)

089324 Wad, Nils. University of Bergen, School of Medicine, Haukeland sykehus, Bergen, Norway. NOR2chlorpromazine sulphoxide, a 'pink spot' produced in vivo and in vitro from chlorpromazine. *Journal of Pharmacy and Pharmacology (London)*. 23(2):131-132, 1971.

An analysis of a substance labeled 'pink spot' which was purported to characterize the urine in patients with schizophrenia when samples are subjected to chromatography, ninhydrin treatment and thereafter with Ehrlich reagent, is reported together with an in vitro experiment with rabbit

liver. The substance was claimed to be 3,4-dimethoxyphenylethylamine (DMPE), but was later thought by others to be chlorpromazine (CP) metabolite. Infrared spectra of CP and 'pink spot' suggest that the latter is a sulphoxide and a primary amine derivative of CP. The presence of a chlorine atom in the molecule was demonstrated by Beilstein's test, and it seems likely that pink spot is identical with NOR2CPSO. The in vitro experiment with male rabbit liver is described. 13 references.

089326 Sturman, Gillian. Research Laboratories, May & Baker Ltd., Dagenham, Essex, England. Modification by a tricyclic series of compounds of the noradrenaline effect on the cat nictitating membrane. *Journal of Pharmacy and Pharmacology (London)*. 23(2):142-143, 1971.

Six tricyclic compounds, imipramine, desipramine, trimipramine, desmethyltrimipramine, amitriptyline and nortriptyline were investigated for their ability to modify the response of the cat nictitating membrane to various doses of noradrenaline (2 to 20 microgm/cat). All compounds modified the noradrenaline action on the intact nictitating membrane. Maximum potentiation for the iminodibenzyl compounds covered a 10 fold range in dosage between the desmethyl derivatives and the parent compounds, imipramine and trimipramine. The most potent of the tricyclic compounds that potentiated the noradrenaline effect was desmethyltrimipramine, in which the sole methyl group is substituted on the beta carbon atom. 4 references.

089434 Erwin, V. Gene; Anderson, A. Duane; Elde, Grethe Jurgensen. School of Pharmacy, University of Colorado, Boulder, Colorado 80302. Enhancement of fatty acid oxidation and medium-chain fatty acyl coenzyme A synthetase by adenine nucleotides in rat heart homogenates. *Journal of Pharmaceutical Sciences*. 60(1):77-81, 1971.

Enhancement of fatty acid oxidation and medium chain fatty acyl coenzyme A synthetase by adenine nucleotides is studied in rat heart homogenates. It was found that cyclic 3',5'-adenosine monophosphate, 5'-adenosine monophosphate, or 2'-adenosine monophosphate markedly enhanced the rate of oxidation of medium chain fatty acids by the heart homogenates, as measured by oxygen utilization and carbon dioxide formation from <sup>14</sup>C labeled substrate. These nucleotides did not alter the rate of oxidation of

medium chain acylcoenzyme A derivatives. The activity of a medium chain fatty acyl coenzyme A synthetase from rat heart homogenates was increased by these nucleotides, and it was suggested that the ability of the nucleotides to enhance fatty acid oxidation by heart homogenates was due to activation of acyl coenzyme A synthetase. 35 references. (Author abstract modified)

**089441 Loizou, L. A.** Department of Physiology, University of Birmingham, Birmingham, 15, England Effect of inhibition of catecholamine synthesis on central catecholamine-containing neurones in the developing albino rat. *British Journal of Pharmacology (London)*. 41(1):41-48, 1971.

The effect of inhibition of catecholamine synthesis on central catecholamine containing neurones is studied in the developing rat. Tyrosine hydroxylase is thought to be the rate limiting enzyme step in catecholamine biosynthesis. Inhibition of this enzyme using alpha-methyl-tyrosine resulted in a time dependent depletion (and repletion) of formaldehyde induced fluorescence in catecholamine containing neurones of the central nervous system in developing and adult rats. Dopamine containing neurones were depleted faster and more completely than noradrenaline containing neurones. The extent of depletion caused by alpha-methyl-tyrosine in the initial 6-9 h period was more or less comparable in young and adult rats from the age of 1 week onwards; this suggests that catecholamine turnover increases with age and parallels the increase in catecholamine levels. The extent of depletion (and repletion) 18 h after administration of the inhibitor varied in animals of different age. Administration of a monoamine oxidase inhibitor just before administration of alpha-methyl-tyrosine resulted in a reduction of the extent of depletion caused by the latter drug, indicating that monoamine oxidase is important for the breakdown of catecholamines in rats of all ages. It is suggested that the catecholamine containing neurones of the newborn are biochemically as well as functionally differentiated before completion of morphological differentiation. 20 references. (Author abstract modified)

**089442 Radwan, A. G.; West, G. B.** Department of Pharmacology, Faculty of Medicine, Al-Azhar University, Madinet Nassre, Cairo, U. A. R. Effect of aminoguanidine, chlorpromazine and NSD-1055

on gastric secretion and ulceration in the Shay rat. *British Journal of Pharmacology (London)*. 41(1):167-169, 1971.

An investigation is made of the effect of high doses of aminoguanidine, chlorpromazine and NSD-1055 (a nonsteroidal antiinflammatory drug) on gastric acid secretion and ulceration in Shay-operated (pyloric ligated) rats. A finding by Antonsen that a correlation exists between gastric acidity and the extent of gastric ulceration in rats subjected to the Shay operation is examined, also. It was found that both chlorpromazine and NSD-1055 markedly lower the volume and acidity of gastric contents of rats subjected to the Shay technique and reduce the degree of ulceration in the stomach. On the other hand, aminoguanidine (an inhibitor of histaminase) has no effect on the acid secretion or ulceration in these animals. 24 references.

**091532 Cicala, George A.; Ulm, Ronald R.; Drews, David R.** Department of Psychology, University of Delaware, Newark, Delaware 19711 The effects of chlorpromazine and d-amphetamine on the acquisition and performance of a conditioned escape response in rats. *Psychological Record*. 21(2):165-169, 1971.

Moderate dosages of chlorpromazine (CPZ) and d-amphetamine (D-AM) were administered to rats in a balanced factorial design permitting the separate assessment of drug effects on the learning and performance of an escape response. CPA impaired both learning and performance of escape responding, while D-AM facilitated performance only. 5 references. (Author abstract)

**092158 Nair, V.; Bau, D.** Laboratory for Therapeutics Research, Michael Reese Hospital Psychiatric Institute, Chicago, Illinois 60616 Studies on the functional significance of carbonic anhydrase in central nervous system. *Brain Research (Amsterdam)*. 31(1):185-193, 1971.

The role of carbonic anhydrase in the regulation of seizure activity has been studied by comparing the brain enzyme levels of normal rats with those of rats found seizure resistant in the maximal electroshock test. These included rats 1) treated with acetazolamide, an anticonvulsant drug; 2) exposed to head X-irradiation, a procedure known to abolish the tonic extensor response to maximal electroshock; and 3) exposed to a combination of acetazolamide and head X-irradiation. In addition, rats which are congenitally seizure resistant in the

maximal electroshock test as well as 2 strains of mice, one audiogenic seizure prone and the other seizure resistant, were also examined in this study. The enzyme determinations were done in different anatomical regions of the central nervous system. The results show a region specific effect. In all the conditions where seizure activity was suppressed, carbonic anhydrase activity was also suppressed with the greatest change occurring in the caudate nucleus. Since it is demonstrated in widely different experimental conditions and in two species, the association of a region specific inhibition of carbonic anhydrase in the caudate nucleus and seizure resistance (anticonvulsant action) is considered highly significant. 21 references. (Author abstract modified)

**092374 Weiss, Brian L.; Aghajanian, George K.** Department of Psychiatry, New York University Medical Center, New York, New York 10016 Activation of brain serotonin metabolism by heat: role of midbrain raphe neurons. *Brain Research (Amsterdam)*. 26(1):37-48, 1971.

Two different experimental procedures were utilized to study the possible role of midbrain raphe neurons in mediating the increase in brain 5-HT catabolism induced by an elevated ambient temperature. In 1 experimental series, lesions were placed in the midbrain raphe nuclei to evaluate the importance of the perikarya of 5-HT containing neurons in mediating the heat induced increase in the 5-HT metabolite, 5-HIAA. Lesions destroying a large portion of the midbrain raphe nuclei were found to completely prevent the heat induced increase in brain 5-HIAA concentration. In another set of experiments the rate of firing of single units in the raphe nuclei was monitored while rats were exposed to infrared radiation in order to determine if a rise in body temperature is associated with an altered rate of firing of the serotonin containing neurons in the midbrain. It was found that as body temperature rises there is a concomitant increase in the rate of firing of individual raphe neurons. Under these conditions the firing of raphe units can be entirely inhibited by LSD. It is hypothesized that changes in forebrain 5-HIAA concentration induced by elevated ambient temperatures are mediated at least in part by an increased rate of firing of the 5-HT containing neurons. 28 references. (Author abstract modified)

**092377 Freychet, Pierre; Roth, Jesse; Neville, David M., Jr.** National Institute of Arthritis and Metabolic Diseases, NIMH, Bethesda, Maryland 20014 Insulin receptors in the liver: specific binding of <sup>125</sup>I-insulin to the plasma membrane and its relation to insulin bioactivity (Unpublished paper). Bethesda, Maryland, NIMH, 1971. 14 p.

With (<sup>125</sup>I) insulin at  $7 \times 10^{-10}$  M, 25% of the radioactivity was bound to plasma membranes purified from rat liver. Twenty percent of the (<sup>125</sup>I)-insulin binding was inhibited by unlabeled insulin at  $10^{-9}$  M (6 ng/ml), equivalent to insulin concentrations in hepatic portal blood; inhibition of (<sup>125</sup>I)-insulin binding was 80% at  $10^{-7}$  M and 90% at  $10^{-5}$  M. Eight insulins and derivatives with biological potencies that differed over a 100 fold range inhibited the binding of (<sup>125</sup>I)-insulin to liver membranes in direct proportion to their ability to stimulate glucose oxidation in isolated fat cells. Inactive insulin chains, as well as glucagon, ACTH and human growth hormone were without effect. The binding of (<sup>125</sup>I)-insulin increased 55 fold as plasma membrane was purified from crude homogenate. Binding was time and temperature dependent and addition of excess insulin produced rapid dissociation of (<sup>125</sup>I)-insulin. This study demonstrates directly the binding of insulin to its biologically important receptors. 37 references. (Author abstract)

**092379 Barker, J. L.; Crayton, J. W.; Nicoll, R. A.** Division of Special Mental Health Research, NIMH, Saint Elizabeths Hospital, Washington, D.C. 20032 Noradrenaline and acetylcholine responses of supraoptic neurosecretory cells (Unpublished paper). Washington, D.C., NIMH, 1971. 21 p.

Monoaminergic and cholinergic agents were microiontophoretically applied to 749 supraoptic neurons, 21.5% of which were antidromically identified as neurosecretory. Noradrenaline, dopamine and serotonin uniformly depressed all responsive cells. Noradrenaline depressions were blocked by MJ-1999 and potentiated by desmethylinipramine. Acetylcholine (ACh) resulted in both depression and excitation of neurosecretory cells. Nicotine caused predominantly excitation while carbachol and mecholyl always depressed responsive neurons. Dihydro-beta-erythroidine blocked only excitations and atropine blocked only depressions, while physostigmine potentiated both types of cholinergic response. The data suggest that ACh excitation is nicotinic

and ACh depression muscarinic and that both noradrenaline and acetylcholine are involved in transmission at synapses ending on supraoptic neurosecretory cells. 57 references. (Author abstract)

**092508 Meek, James L.; Neff, N. H.** Laboratory of Preclinical Pharmacology, National Institute of Mental Health, St. Elizabeths Hospital, Washington, D.C. 20032 Tryptophan 5-hydroxylase: approximation of half-life and axonal flow rate (Unpublished paper). Washington, D.C., NIMH, 1971. 7 p.

The half-life of tryptophan 5-hydroxylase in rats was estimated from the return of enzyme activity after p-chlorophenylalanine and the decline of enzyme activity in spinal cord after transection or an intraspinal injection of colchicine. The half-life was about 2.5 days. Axonal flow of enzyme was estimated from the reappearance of activity in consecutive portions of spinal cord after treatment with p-chlorophenylalanine and was found to be about 6 mm/day. This rate is characteristic of slow axonal flow. Our results suggest that changes in the synthesis of new enzyme are probably not responsible for acute changes in serotonin turnover. 11 references. (Author abstract)

**092689 Thoa, Nguyen B.; Eccleston, Donald; Axelrod, Julius.** National Institute of Mental Health, Bethesda, Maryland 20014 The accumulation of 14C-serotonin in the sympathetic nerves of the guinea pig vas deferens (Unpublished paper). Bethesda, Maryland, NIMH, 1971. 11 p.

The accumulation of 14C-serotonin in the sympathetic nerves of the guinea pig vas deferens is studied. 14C-serotonin can be taken up by guinea pig vas deferens tissue after in vitro incubation. The accumulation is temperature dependent, saturable and is blocked by cocaine, imipramine and ouabain, drugs known to interfere with the active transport of norepinephrine into the nerve cells, and by norepinephrine itself. The indolamine appears to accumulate in the same intraneuronal sites which store endogenous norepinephrine. About half of the accumulated 14C-serotonin is slowly released from the vas deferens within 2 hours. This release is enhanced by drugs which release norepinephrine such as reserpine, tyramine, dopamine and by norepinephrine. These observations suggest that uptake and storage in the sympathetic nerve ter-

minals of peripheral tissues are not specific processes for norepinephrine only, but for other normally occurring amines as well. (Author abstract)

**092856 Axelrod, Julius.** Laboratory of Clinical Science, National Institute of Mental Health, Bethesda, Maryland 20014 Biochemical pharmacology of catecholamines and its clinical implications (Unpublished paper). Bethesda, Maryland, NIMH, 1971. 16 p.

In a series of studies, the effect of experimental hypertension produced by the administration of large amounts of sodium chloride and dopa on biochemistry of the sympathetic nervous system was examined. The elucidation of the biochemical mechanisms concerning formation, metabolism, uptake, storage, and release of catecholamines has given insight into the understanding and treatment of certain diseases such as hypertension, Parkinson's disease and mental depression. Blood pressure of hypertensive humans is lowered by drugs that alter the physiological disposition of catecholamines (reserpine, guanethidine, alomet, adrenergic and ganglionic blocking agent). The results indicated that disturbance of electrolytes caused a change in the activity of the sympathetic nervous system. In addition, the increased turnover of noradrenaline associated with hypertension appeared to be mediated by the central nervous system. It was also found that increased psychosocial stimulation in mice caused an elevated blood pressure. This was accompanied by an increase activity of the catecholamine biosynthetic enzyme tyrosine hydroxylase and the adrenaline forming enzyme. It is suggested that these biogenic amines are involved in mental illness; and that other diseases involving the nervous system, such as Huntington's chorea, and dystonia and schizophrenia might involve disturbances of catecholamine metabolism and disposition.

**092859 Molinoff, P. B.; Brimijoin, S.; Axelrod, Julius.** Biophysics Department, University College London, Gower Street, London WC1E 6BT, England Transsynaptic induction of dopamine-beta-hydroxylase in adrenergic tissues of the rat (Unpublished paper). Bethesda, Maryland, NIMH, 1971. 2 p.

A sensitive enzymatic assay for the enzyme dopamine beta-hydroxylase (DBH) was used to study changes in enzyme activity which occur

with pharmacologically induced alterations in the level of activity in the sympathetic nervous system. The assay is based on the enzymatic conversion of the beta-hydroxylated product of the DBH reaction to its N-methyl derivative in the presence of S-adenosylmethionine-14CH<sub>3</sub> (Molinoff, Weinshilboum and Axelrod, 1971). Endogenous inhibitors of DBH were inactivated with copper sulfate. The activity of DBH was increased in adrenergic tissues of the rat by agents including reserpine which are believed to cause a reflex increase in sympathetic tone. After reserpine, DBH activity increased within 24 hours in sympathetic ganglia. Monoamineoxidase inhibitors, bretylium which blocks the neurally induced release of noradrenaline, and catecholamines themselves, all interfere with the ability of reserpine to release catecholamines and all blocked the induction of DBH in ganglia. The administration of the catecholamines dopa and dopamine also caused a marked decrease in cardiac DBH activity. It is concluded that long-term changes in the level of activity in the sympathetic nervous system result in changes in the amount of DBH activity in the neuron. These changes are transsynaptic effects of nerve impulses and require protein synthesis. (Author abstract modified)

093553 Kvetnansky, R.; Weise, V. K.; Gewirtz, G. P.; Kopin, I. J. Laboratory of Clinical Science, National Institute of Mental Health, Bethesda, Maryland 20014 Biosynthesis of adrenal catecholamines during adaptation to repeated immobilization stress (Unpublished paper). Bethesda, Maryland, NIMH, 1971.

During adaptation to daily 2,5 hour intervals of immobilization /IMO/ rats have increased adrenal and urinary catecholamines /CA//1/. Similarly levels of adrenal medullary enzymes tyrosine hydroxylase /TH/, dopamine-beta-hydroxylase /RbetaM/ and phenylethanolamine-N-methyltransferase /PNMT/ are elevated /2/. In the present studies, the biosynthesis of adrenal CA was measured in vivo in immobilized rats. Each animal was given 50  $\mu$ Ci of tyrosine-14C and 30  $\mu$ Ci of dopa-3H i.v., 90 minutes after beginning of IMO. One hour later, rats were killed and 14C and 3H dopamine was separated in 1 fraction and 14 C and 3H beta-hydroxylated amines /norepinephrine and epinephrine/ into a second fraction. Dopamine synthesized from tyrosine-14C was increased after the first IMO; this increase was

more apparent after the seventh and fortieth stress. Dopamine synthesized from dopa-3H was not changed. Synthesis of beta-hydroxylated CA from tyrosine-14C or dopa-3H was not significantly changed during the first IMO but an approximately fivefold increase was found after the seventh resp. fortieth IMO. The obtained results are in good agreement with the previous studies of enzyme levels /2/. Immediately after the first IMO the biosynthesis of adrenal CA was elevated only at the tyrosine hydroxylase step but after repeated IMO there was an increase in all steps of the catecholamine pathway.

093933 Woodbury, D. M.; Kemp, J. W. Dept. of Pharmacology, University of Utah College of Medicine, Salt Lake City, Utah Pharmacology and mechanisms of action of diphenylhydantoin. *Psychiatry, Neurologia, Neurochirurgia*. 74(2):91-115, 1971.

Some possible mechanisms by which diphenylhydantoin (DPH) exerts an anticonvulsant effect are discussed, including descriptions of those experimental approaches that appear pertinent in further defining its mechanisms. It is pointed out that little is known about the actions of anticonvulsant drugs on epilepsy; but progress is rapid and more is being learned; the paper reviews some of the recent advances. 30 references. (author abstract modified)

094258 Westermann, K. H.; Oelssner, W.; Fischer, H.-D. Institut für Pharmakologie und Toxikologie, der Medizinischen Akademie 'Carl Gustav Carus,' Dresden, Germany /Cholinergic influenced narcosis and brain acetylcholine content of mouse./ *Cholinerg beeinflusste Narkose und Hirn-Acetylcholinegehalt der Maus. Acta Biologica et Medica Germanica (Berlin)*. 26(1):115-122, 1971.

Barbital causes dose related increase in brain acetylcholine content in mice. Combining the narcotic with a cholinomimetic (arecoline 5mg/kg, pilocarpine 15mg/kg) or a cholinolytic (atropine 4mg/kg) intensified the narcotic action, but only the combination with arecoline revealed an analogous increase in acetylcholine. If the potentiation of narcosis by arecoline or pilocarpine is offset by atropine, the acetylcholine content is below those values determined for the combination of the narcotic with each of the cholinomimetics. Changes in the brain stem are in line with those in the telencephalon, but they are less pronounced. The results give no clue as to a

causal relationship between acetylcholine content and cholinergic influence on narcosis. 50 references. (Journal abstract)

**094922** Boyd, Eldon M. Department of Pharmacology, Queen's University, Kingston, Ontario, Canada Sterility from phenacetin. *Journal of Clinical Pharmacology and New Drugs*. 11(2):96-102, 1971.

A previous study has shown that daily administration of high levels of phenacetin to rats for extended periods caused inhibition of spermatogenesis in the latter half of the period of administration. In the present study further investigation is made of phenacetin induced sterility by giving the drug for 220 days to male albino rats in a dose of 0.29gm/kg per day. This dosage produced no deaths and no effect upon body weight, food and water intake, colonic temperature, and the volume and composition of urine. It appeared that this daily dose could be readily detoxified and eliminated since there were no pathologic lesions in the liver and kidneys and no evidence of augmented susceptibility to infection such as occurs at slightly larger daily doses. Phenacetin at this daily dose produced some hypertrophy of the gastrointestinal tract, splenomegaly, a mild stress in the adrenal and thymus glands, and some degree of dehydration of body organs. The main evidence of impaired body function was inhibition of spermatogenesis and sterility. On a body weight basis, this sterilizing dose corresponds to about one tablet of phenacetin per kilogram body weight per day. The daily dose in man may be lower, however, since the rat is more resistant than guinea pigs to the toxic effects of repeated daily dosing with phenacetin. 12 references. (Author abstract modified)

**094923** Weight, F.; Votava, J. Laboratory of Neuropharmacology, National Institute of Mental Health, Saint Elizabeths Hospital, Washington, D. C. 20032 Slow synaptic excitation: evidence for synaptic inactivation of potassium conductance (Unpublished paper). Washington, D. C., NIMH, 1971.

Synaptic excitation results from an increased ion conductance of postsynaptic membrane at virtually all chemically transmitting synapses that have been investigated. The nicotinic fast EPSP in frog sympathetic ganglion cells, like virtually all other EPSPs, is generated by an increased membrane conductance and is increased in size by

membrane hyperpolarization and decreased and then reversed by progressive depolarization. When the fast EPSP is blocked by nicotine (5 ug/ml), repetitive B fiber stimulation (100/sec for 2 sec) generates in B ganglion cells a muscarinic slow EPSP with unique properties. The slow EPSP was investigated in the tenth paravertebral sympathetic ganglion of bullfrogs in vitro. Intracellular records were taken from B-ganglion cells with standard electrophysiological techniques. In contrast to the increased conductance associated with other known EPSPs, membrane conductance, measured by a constant current pulse, decreased significantly during the slow EPSP. Furthermore, contrary to the effect of electrical membrane polarization on other EPSPs, depolarizing current increased the size of the slow EPSP, whereas hyperpolarizing current decreased the slow EPSP. Further hyperpolarization of the membrane reversed the slow EPSP to a hyperpolarizing potential. The reversal potential of the slow EPSP was close to the K<sup>+</sup> equilibrium potential. Removal of Cl<sup>-</sup> from the Ringer bath had no significant effect on the slow EPSP. These data are consistent with the hypothesis that the slow EPSP is generated by an inactivation of resting potassium conductance. (Author abstract)

**094956** Lattal, K. A.; Maxey, G. C.; Wilbur, E. M. Edgewood Arsenal, Maryland Effects of single 1/2 LD50 doses of GB upon delayed response and conditioned avoidance response tests. Springfield, Va., NTIS, AD-723394, 1971. 18 p. HC:\$3.00 MF:\$0.95.

Two experiments were conducted 1) to explore behavioral paradigms that might be sensitive to the effects of cholinesterase inhibitor and 2) to identify behavioral changes associated with single large doses (1/2 LD50) of GB. Rhesus monkeys were tested either in a delayed response test using the Wisconsin General Test Apparatus or in a discriminated shock avoidance paradigm in which a brief (0.01 second) warning stimulus was used. In both tests, the monkeys were trained first to a criterion (baseline), then exposed to a sham control procedure, retrained to baseline performance, and administered the appropriate dosage of GB. To insure that respiratory arrest did not occur as a result of the GB exposure, dosing was accomplished while the animal was paralyzed with respiration artificially maintained. The sham procedure was identical to the above dosing procedure except for the omission of the GB in-

jection. Performance after GB exposure was compared to performance following the sham procedure. No reliable long or short-term behavioral changes occurred as a result of exposure to GB. The contribution of the dosing procedures, the behavioral test, and the sensitivity of the dependent variables to the results are discussed. (Journal abstract - GRA)

**095366** Randic, M.; Padjen, A. Biology Div., Institute 'Rudjer Boskovic', Zagreb, Yugoslavia Effect of N,N-dimethyltryptamine and D-lysergic acid diethylamide on the release of 5-hydroxyindoles in rat forebrain. *Nature (London)*. 230(5295):532-533, 1971.

This report describes how N,N-dimethyltryptamine (DMT) and LSD affect release of serotonin and 5-HIAA in the forebrain when the midbrain is stimulated. The methodology of the experiments on adult rats is discussed, and the following conclusions are drawn: LSD and DMT produce significant increase in the serotonin and decrease in 5-HIAA in the rat brain; both drugs reduce the increase in forebrain 5-HIAA seen in untreated animals after raphe stimulation; in stimulated rats, LSD produces a small decrease in forebrain serotonin; and DMT interacts more consistently with the induced increase in forebrain 5-HIAA than does LSD. Several hypotheses are projected on the basis of study data. 17 references.

**095999** Nilsson, Lorentz. Brain Research Laboratory, E-blocket, University Hospital, Lund, Sweden The influence of barbiturate anaesthesia upon the energy state and upon acid-base parameters of the brain in arterial hypotension and in asphyxia. *Acta Neurologica Scandinavica (Kobenhavn)*. 47(2):233-253, 1971.

Using rats, the influence of barbiturate anesthesia upon the energy and acid base metabolism of the brain was studied in arterial hypotension and in asphyxia by measuring the tissue concentrations of phosphocreatine, ATP, ADP, AMP, lactate, pyruvate, and bicarbonate. Intracellular lactate and pyruvate concentrations were derived after corrections for the lactate and pyruvate contained in the blood and extracellular fluid volumes of the tissue. Barbiturate anesthesia was found to have a protective effect during arterial hypotension but not during total asphyxia. 24 references. (Journal abstract)

**096013** Dewar, A. J.; Reading, H. W. Brain Metabolism Unit, Dept. of Pharmacology, University of Edinburgh, Edinburgh, Scotland Effect of lithium administration on RNA metabolism in rat brain. *Psychological Medicine (London)*. 1(3):254-259, 1971.

An attempt has been made to explain the changes in uric acid levels observed in the phase of manic depressive illness by suggesting that they may be a reflection of changes in brain RNA metabolism. The effect of prolonged lithium administration on RNA synthesis in rat brain and liver has been studied. Differences in the rate of turnover of brain RNA between the lithium treated and saline control animals have been observed: the rate was much faster in the lithium treated animals. 11 references. (Journal abstract modified)

**097446** Liebeskind, John C.; Mayer, David J. Department of Psychology, University of California at Los Angeles, Los Angeles, California 90024 Somatosensory evoked responses in the mesencephalic central gray matter of the rat. *Brain Research (Amsterdam)*. 27(1):133-151, 1971.

Somatosensory evoked responses in the mesencephalic central gray (CG) matter is investigated in the rat. Short latency evoked potentials were recorded from the CG under deep Nembutal anesthesia to stimulation of any limb, the tail, or the face. An intermediate degree of somatotopic organization was evident. The tail and face were better represented than the limbs, and the contralateral body surface was better represented than the homolateral. The focus of maximum responding always lay just ventral to the aqueduct. Several of these observations are in marked contrast to previously reported findings in CG of the cat. In the acute, anesthetized preparation ventral cord section abolished the earliest component of the CG response while dorsal cord section abolished the later component. In the chronically implanted, awake animal the CG response consisted of 4 components corresponded to those carried in the ventral and dorsal cord paths respectively. The principal growth in amplitude of the first positive component occurred with stimulus intensities well below noxious levels. From these and single cell data it was concluded that this component carried information of tactile origin. Amplitude of later components correlated with nociception in 3 experiments. 29 references. (Author abstract modified)

097448 Duncan, Perry M. Department of Physiology and Biophysics, University of Washington, Seattle, Washington 98105 Effect of temporary septal dysfunction on conditioning and performance of fear responses in rats. *Journal of Comparative and Physiological Psychology*. 74(3):340-348, 1971.

Effect of septal dysfunction on fear conditioning apart from performance effects such as response perseveration and decrement in freezing was determined. Rats were subjected to tone-shock pairings while in a state of temporary septal dysfunction resulting from injection of procaine into the septum via chronically implanted cannulae. Nonoperated, cannula only, saline injected, and delayed procaine injected groups were controls. When tested for conditioned suppression in the normal state, rats that had been conditioned immediately following procaine injection suppressed significantly less than did controls, indicating that septal dysfunction impaired conditioning. The deficit could be partially responsible for previously reported effects of septal damage on passive avoidance. Procaine injection also temporarily reduced freezing elicited by the conditioning stimulus, whereas electrolytic septal damage caused a permanent deficit in freezing behavior. 14 references. (Author abstract)

098151 Fernandez-Guardiola, Augusto; Ayala, Fructuoso. Departamento de Neurobiología, Instituto de Investigaciones Biomedicas, UNAM, Ciudad Universitaria, Mexico 20, D.F., Mex. Red nucleus fast activity and signs of paradoxical sleep appearing during the extinction of experimental seizures. *Electroencephalography and Clinical Neurophysiology (Amsterdam)*. 30(6):547-555, 1971.

The electrical activity of several cortical and subcortical structures was analyzed in cats during electrically and pentamethylenetetrazol induced seizures. These activities were compared with the spinal monosynaptic reflex variations during the same seizures. The following results are described: 1) the monosynaptic spinal reflex is initially facilitated during the tonic phase and when it is elicited in the vicinity of a clonic wave, 2) in the last stages of the seizure, the monosynaptic spinal reflex appears deeply inhibited, 3) the electrical stimulation of red nucleus areas which show fast sinusoidal activity is also associated with a spinal monosynaptic reflex depression, 4) the electrical stimulation of the cortical sensorimotor areas in which the tonic-clonic activity was recorded facilitates the monosynaptic spinal reflex, and 5) in the last stages of the convulsive

activity, central and peripheral signs appear which are similar to those described for paradoxical or REM phase of normal sleep. 34 references. (Author abstract modified)

098158 Wilson, D. E.; Chernov, H. I.; Bernard, P. S.; Partyka, D. A.; Barbaz, B. S.; De Stevens, G. Research Department, CIBA Pharmaceutical Company, Summit, New Jersey Neuropharmacological properties of Su17595A, a chlorpromazine-like central nervous system depressant. *Archives Internationales de Pharmacodynamie et de Therapie (Gent, Belgium)*. 191(1):15-23, 1971.

The neuropharmacological properties are described for Su17595A, a chlorpromazine like central nervous system depressant. Su-17595A, is a highly active psychotropic agent, that has tranquilizing or sedating properties, the pattern and nature of which depends upon dosage. The compound inhibits increased motor activity induced by stimulant drugs, 'tames' animals made vicious by septal lesions and does not have adverse effects on muscular coordination in otherwise effective doses. The site of action for Su-17595A is supraspinal, primarily in the brain stem. 16 references. (Journal abstract modified)

098160 Winter, J. C. Department of Pharmacology, School of Medicine, State University of New York, Buffalo, New York 14214 Interaction of serotonin antagonists with harmaline-induced changes in operant behavior and body temperature in the rat. *Archives Internationales de Pharmacodynamie et de Therapie (Gent, Belgium)*. 191(1):120-132, 1971.

In a study of the interaction of serotonin antagonists with harmaline induced changes in operant behavior and body temperature, it is found that in rats responding on a fixed ratio 20 schedule of positive reinforcement, harmaline produces a dose related depression of response rate. This effect is independent of the ability of harmaline to antagonize monoamine oxidase. Pretreatment with peripheral, and central antagonists of serotonin does not alter the harmaline induced depression of response rate. The hypothermic effect is not antagonized by xylamidine tosylate, a peripheral serotonin antagonist. However, pretreatment with methysergide causes a significant potentiation of the hypothermic effect of harmaline. The rate depressant effects of harmaline are due neither to inhibition of monoamine oxidase nor to occupation of

peripheral or central serotonin receptors. The potentiation of harmaline induced hypothermia by methysergide cannot adequately be explained at present. 20 references. (Journal abstract modified)

098290 McKinney, William T.; Prange, Arthur J.; Majchowicz, Edward; Schlesinger, Kurt. Department of Psychiatry, University of Wisconsin Medical School, Madison, Wisconsin 53706 Plasma corticosterone changes following alterations in brain norepinephrine and serotonin. *Diseases of the Nervous System*. 32(5):308-313, 1971.

Young adult male Sprague-Dawley rats received intraperitoneal injections of drugs which altered brain levels of norepinephrine and/or serotonin. Plasma corticosterone levels were studied in relation to changes in brain levels of these amines. It was found that simultaneous depletion of both amines with reserpine was accompanied by a rise in plasma corticosterone. Selective lowering of norepinephrine levels with alpha-methyl-paratyrosine or of serotonin levels with parachlorophenylalanine was not associated with changes in corticosterone levels. Elevation of norepinephrine and serotonin levels by the use of monoamine oxidase inhibitor (Catron) did not cause any changes in plasma corticosterone. 11 references. (Author abstract)

098303 Nose, Takashi; Kowa, Yoshio. Department of Pharmacology, Research and Development Division, Tanabe Selyaku Co., Ltd., Higashiyodogawaku, Osaka, Japan Pharmacological studies of 5-methyl-8-ethyl-sulfonyl-10-(2-dimethylaminoethyl)-5H-dibenzo nzo 0B,E0 01,40 diazepine-11 (10)-one (SM-307), an antidepressive substance. *Japanese Journal of Pharmacology (Kyoto)*. 21(1):47-55, 1971.

The pharmacological properties of 5-methylsulfonyl-10-(2-dimethylaminoethyl)-5H-dibenzo 0b, e0 01, 40 diazepine-11 (10)-one (SM-307) were studied. SM-307 showed no change in spontaneous activities and low toxicity in mice. SM-307 showed some properties corresponding to those of tricyclic antidepressive substances. SM-307 was active against the effects of reserpine (body temperature and motor activity) and enhanced the effects of catecholamines (body temperature and blood pressure). The peripheral anti-ACh and anti-His activities were very weak (1/40-1/100 of imipramine activity). SM-307 did not influence amine levels of brain and monoamine oxidase activity. Cardiovascular and respiratory effects of

SM-307 were very weak. 12 references. (Author abstract)

098304 Shiomi, Hirohito; Abe, Takeshi; Takagi, Hiroshi. Department of Pharmacology, Faculty of Pharmaceutical Sciences, Kyoto University, Sakyo-ku, Kyoto, Japan Electroencephalographic studies on codeine dependence in rat with special reference to the spike formation in the hippocampus during abstinence syndrome. *Japanese Journal of Pharmacology (Kyoto)*. 21(1):132-134, 1971.

Electroencephalographic (EEG) studies were conducted on codeine dependence in the rat with special reference to the spike formation in the hippocampus during the abstinence syndrome. EEG changes in codeine dependence were compared with those in morphine dependence, which were previously investigated. The results of both studies indicate that EEG techniques are useful for detecting the narcotic dependence, and that the functional disturbance in the hippocampus might correlate to the generation of a particular type of abstinence syndrome, such as prostration or cataleptic behavior. 1 reference.

098305 Matsushita, Akira; Takesue, Hideo; Kido, Ryonosuke. Shionogi Research Laboratory, Shionogi and Co., Ltd., Fukushima-ku, Osaka, Japan Actions of morphine and narcotic antagonist analgesics on the spinal cord of acute and chronic spinal rats. *Japanese Journal of Pharmacology (Kyoto)*. 21(1):134-136, 1971.

Morphine and narcotic antagonist analgesics are shown to depress the electromyographic (EMG) response of tail muscles to a noxious stimulus in chronic spinal rats, whereas no significant action is detected in acute spinal rats. In general, the EMG activity was composed of 2 components, phasic and tonic discharges, the latter being more valuable to drug action. The data agree with those previously reported dealing with the action of narcotic antagonist analgesics on the flexor reflex in the hind limb of the chronic spinal dogs. However, the present method is seen as being easier to manipulate and should therefore provide a new technique in the development of the analgesics and better understanding of the obscure pharmacological properties of the drugs. 1 reference.

098557 Miras, C. J.; Kephals, T. A.; Papadakis, D. P. Department of Biological Chemistry, School of Medicine, University of Athens, Greece The effect of hashish extract on the norepinephrine in

rabbit brain. *Bulletin on Narcotics*. 23(1):33-34, 1971.

An extract of Cannabis injected intraperitoneally to rabbits caused changes in several areas in the concentrations of the endogenous norepinephrine in the brain. No significant changes in the total amount of norepinephrine in the brain occurred. 8 references. (Author abstract modified)

**098615 Jorgensen, A.; Overo, K. Fredricson; Hansen, V.** Research Laboratories, Lundbeck and Co. A/S, Copenhagen, Denmark Metabolism, distribution and excretion of flupenthixol decanoate in dogs and rats. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(4):339-358, 1971.

The metabolism of flupenthixol decanoate administered in viscoleo by intramuscular or subcutaneous injection has been studied by thin layer chromatographic techniques after extraction of urine, feces and organs from dogs and rats. Since only minute amounts of the compound itself were detected in the organs and a high hydrolytic activity of blood and organs was demonstrated by in vitro experiments, it was concluded that the compound is hydrolyzed in the organism. The flupenthixol thus formed was found to be metabolized by sulphoxidation and by dealkylation in the side chain following the same pattern as that previously shown for flupenthixol. The neuroleptic effect seen in the pharmacological studies is presumably due to flupenthixol, since this is quantitatively by far the most important substance found in brain extracts. In order to study the depot effect of the preparation, blood levels and excretion were followed after administration of the 3H-labelled compound. These studies indicated, that a sustained release of drug from a depot was obtained. The presence of a relatively limited depot was demonstrated. 9 references. (Journal abstract)

**098616 von Bahr, Christer; Borga, Olof.** Department of Pharmacology, Division of Clinical Pharmacology, Karolinska Institutet, Stockholm, Sweden Uptake, metabolism and excretion of desmethylinipramine and its metabolites in the isolated perfused rat liver. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(4):359-374, 1971.

The isolated perfused rat liver was used in order to study the metabolism of the tricyclic antidepressant drug, desmethylinipramine (DMI), which is metabolized by oxidation and subsequent

conjugation. DMI labelled with tritium in a position in which it is not eliminated by metabolism, was used. Extraction procedures were developed which allowed a separation of DMI and its hydroxylated and conjugated metabolites. DMI and its metabolites were measured in perfusate plasma, bile and liver. DMI disappeared quickly from the plasma and reappeared in high concentrations in liver and bile. The drug was highly bound to proteins in perfusate plasma, while the conjugated metabolites were not bound at all. The red blood corpuscles contained approximately 10 times higher concentrations of DMI than perfusate plasma but no conjugated metabolites. Only small amounts of unconjugated hydroxylated metabolites were found in perfusate plasma, liver and bile in contrast to the conjugated metabolites which occurred in considerable amounts in perfusate plasma and bile. DMI was bound to the microsomal fraction of the liver cell. The conjugated metabolites appeared mainly in the cytoplasm of the liver cell. 34 references. (Journal abstract)

**098634 Parker, James M.; Winek, Charles L.; Shanor, Sydney P.** Toxicology Laboratories, Duquesne University, Pittsburgh, Pennsylvania Post-mortem changes in tissue levels of sodium secobarbital. *Clinical Toxicology*. 4(2):265-272, 1971.

Postmortem changes in tissue levels of sodium secobarbital were investigated in Sprague-Dawley rats. Liver sodium secobarbital levels increased with postmortem time; the maximal increase occurring during the first 24 hr. The postmortem gastric absorption of sodium secobarbital in the rat has been demonstrated. The postmortem 'cranial-end-up' position may facilitate the diffusion of sodium secobarbital toward the liver. An effective method of determining liver levels of sodium secobarbital is described. 7 references. (Author abstract modified)

**098685 Axelsson, Sture; Bjorklund, Anders; Seller, Nikolaus.** Institute of Anatomy and Histology, University of Lund, Lund, Sweden Identification of bufotenin in toad brain by chromatography and mass spectrometry of its DANS-derivative. *Life Sciences*. 10(13):745-749, 1971.

In extracts of the brain of the toad (*Bufo bufo*) a substance was found which cochromatographed with bufotenin (N,N-dimethyl-5-hydroxytryptamine) on silica gel thin layer in 3

solvent systems. An undeveloped spot was scraped off the plate and dansylated. The bidimensional thin layer chromatography of the dansylation products gave one spot which cochromatographed with DANS (1-dimethylaminonaphthalene-5-sulphonyl)-bufotenin. In the mass spectrographic analysis, this spot gave a mass spectrum identical with that of DANS-bufotenin. The compound in this way identified as bufotenin was detected in toad brain, retina, and skin, but was absent in toad liver and pancreas, and in rat brain stem. 14 references. (Author abstract)

**098926** Cheney, D. L.; Goldstein, Avram. Dept. of Pharmacology, Stanford University School of Medicine, Stanford, California Tolerance to opioid narcotics: time course and reversibility of physical dependence in mice. *Nature (London)*. 232(5311):477-478, 1971.

Naloxone elicited jumping behavior in mice (a sensitive indicator of the degree of opiate dependence) was used to follow the time courses of the onset and reversal of dependence in various conditions of exposure to opiates. Frequent injections of levorphanol or implantation of a morphine pellet caused a cumulative build up of dependence. Injections at a long enough interval caused no build up of dependence regardless of the duration of administration of the drug. These findings agree with observations on tolerance: the frequency of administration of a fixed dose controls the level of the steady state obtained. Results also show that in the mouse, a single dose of opiate produces a certain quantum of physical dependence which dissipates entirely in about 24 hours. In other words, physical dependence in the mouse, like tolerance, is completely and rapidly reversible; 1 cycle of dependence and recovery does not modify the course of a subsequent cycle. 18 references.

**098956** Diab, I. M.; Freedman, D. X.; Roth, L. J. Departments of Pharmacology and Psychiatry, University of Chicago, Chicago, Ill. 60637 03H01ysergic acid diethylamide: cellular autoradiographic localization in rat brain. *Science*. 173(4001):1022-1024, 1971.

Intravenous administration of 03H01ysergic acid diethylamide (LSD) to rats resulted in accumulation of the drug in the brain within 15 minutes. Autoradiographic methods were used to differentiate free and bound 03H0LSD in brain tissue. Free 03H0LSD was generally distributed in

the pituitary and pineal glands, cerebellum, hippocampus, and choroid plexus. Bound 03H0LSD was localized in neurons of the cortex, caudate nucleus, midbrain, and medulla, as well as in choroid plexus epithelium. 14 references. (Journal abstract)

**099018** Weinshilboum, Richard; Axelrod, Julius. Pharmacology-Toxicology Program, National Institute of General Medical Sciences, Bethesda, Maryland 20014 Serum dopamine-beta-hydroxylase: decrease after chemical sympathectomy. *Science*. 173(4000):931-934, 1971.

The nature and effects of dopamine-beta-hydroxylase activity after a partial chemical sympathectomy are discussed. This is an enzyme that is localized to catecholamine-containing vesicles in sympathetic nerves and the adrenal medulla and is also found in the serum. Treatment of rats with 6-hydroxydopamine, a drug which destroys sympathetic nerve terminals, leads to a decrease in serum dopamine-beta-hydroxylase activity. The decrease is not due to an effect on the adrenal medulla or to an increase in circulating inhibitor or inhibitors of enzyme. These data represent evidence that at least a portion of the circulating dopamine-beta-hydroxylase activity arises from sympathetic nerve terminals. 17 references. (Author abstract modified)

**099108** Prichard, J. W. Section of Neurology, Yale University School of Medicine, New Haven, Connecticut 06510 Effect of pentylenetetrazol on the leech Retzius cell. *Experimental Neurology*. 32(2):275-286, 1971.

Results are reported on the effect of pentylenetetrazol on the Retzius cell of the leech. The drug caused reversible hyperpolarization cessation of spontaneous firing and fall in input resistance of the Retzius cells of leech segmental ganglia. Transient depolarization and increased firing also occurred in the early portion of the response in some cells. The hyperpolarization and input resistance changes occurred in the presence of 20mM magnesium sulfate, but the early excitatory phenomena never did. Substitution of propionate for chloride in the bathing fluid reduced the hyperpolarization and input resistance change in proportion to the reduction of chloride. In the absence of all external chloride, and with a potassium chloride rather than a potassium acetate electrode in the cell, the drug caused depolarization and increased firing. These data

demonstrate that the principal effect of pentylentetrazol on this particular neuron is a direct, selective, and reversible increase in the chloride permeability of some substantial portion of its membrane. Increased electrogenic ion pumping does not appear to be a significant factor in the response. It is noted that the overall effect of increased chloride permeability in a population of neurons is theoretically quite complex, owing to the fact that the chloride equilibrium potential is negative to the firing level in some cells and positive to it in others. 33 references. (Author abstract modified)

**099261 Pujol, Jean-Francois; Buguet, Alain; Froment, Jean-Louis; Jones, Barbara; Jouvet, Michel.** Laboratoire de Medecine Experimentale, Faculte de Medecine, Lyon, France The central metabolism of serotonin in the cat during insomnia: a neurophysiological and biochemical study after administration of p-chlorophenylalanine or destruction of the raphe system. *Brain Research (Amsterdam)*, 29(2):195-212, 1971.

In a study of central metabolism of serotonin (5-HT) during insomnia, neurophysiological experiments were performed in chronically implanted cats continuously recorded. In normal cats small doses of 5-hydroxytryptophan (5-HTP) had no significant effect, whereas large doses (50 mg/kg) induced a state of EEG synchronization with suppression of paradoxical sleep for 8 hours. The insomnia that followed the injection of 400mg of p-chlorophenylalanine/kg reached its maximum after 40 hours. Injection of 5mg of DL-5-HTP/kg at the time of maximal insomnia restored both slow wave sleep and paradoxical sleep to normal levels during 5-6 hours. Injection of 50mg of 5-HTP/kg restored normal levels of both states of sleep for 12 hours. The insomnia that followed surgical destruction of the raphe system was not reversible by small or large doses of 5-HTP. Biochemical investigations were performed in vitro, on the brains of cats killed during the time of maximal pharmacologically induced insomnia or 8 days after the destruction of the raphe system. The synthesis of tritiated serotonin (03H05-HT) from tritiated tryptophan was impaired in both categories, whereas the synthesis of 03H05-HT from tritiated 5-HTP was normal. It is concluded that in normal conditions, exogenous 5-HTP is not a physiological precursor of 5-HT at the central 5-HT terminal. However, in p-chlorophenylalanine treated cats, exogenous 5-

HTP, in small doses, could represent a physiological precursor or 5-HT. The relationship between 5-HT containing neurons and sleep are discussed. 38 references. (Author abstract modified)

**099266 Watkins, J. C.** MRC Neuropsychiatry Unit, Medical Research Council Laboratories, Carshalton, Surrey, Great Britain The effects of excitatory and inhibitory amino acids on the metabolism of endogenous brain amino acids in the nembutalized mouse. *Brain Research (Amsterdam)*, 29(2):293-313, 1971.

A study is presented to elucidate some of the metabolic effects which could result from raised extracellular levels of some endogenous brain amino acids. 0U-14C0Glucose was injected intraventricularly into nembutalized mice in the presence and absence of the neuroexcitants N-methyl-D-aspartate (NMBA), L-aspartate and L-glutamate, and the neurodepressants, 3-aminopropane sulphonic acid and gamma-aminobutyric acid. Glutamate, aspartate and NMDA increased the incorporation of glucose 14C into endogenous acidic amino acids. The inhibitory amino acids decreased the incorporation of glucose 14C into acidic amino acids and increased the relative proportion of amino acid radioactivity in alanine. These effects were considered to reflect a decrease in the rate of oxidative metabolism. The metabolic consequences of the pharmacological interaction of the 2 types of amino acid and Nembutal are discussed. The main effects on amino acid metabolism resulting from neuronal excitation by NMDA are the reverse of those associated with Nembutal anaesthesia. On the other hand, the metabolic effects of depressant amino acid action resemble those of the barbiturate. The results can be explained solely on the basis of the differential energy requirements of active and inactive neurones, but interrelations between the mechanisms of action of Nembutal and those of the amino acids may well be involved. 44 references. (Author abstract modified)

**099335 Himwich, William A.** Thudichum Psychiatric Research Laboratory, Galesburg State Research Hospital, Galesburg, Illinois 61401 Metabolic aspects of amino acid loading and drug administration in animal studies. In: *Himwich, H., Biochemistry, schizophrenias, and affective illnesses*. Baltimore, Williams and Wilkins, 1971. 500p. (p. 414-430).

The effects of amino acid loading and drug administration on the behavior of various animals is discussed. Giving a dog 5-hydroxytryptophan increases brain serotonin; a lower dose is required for equivalent behavioral responses when a monamine oxidase inhibitor is also given. A similar method can be used to evaluate serotonin antagonists. Tryptophan loading lowered the blood pressure for awhile and quieted the animals for an even greater period of time. Brain serotonin was increased following tryptophan administration. Through the use of Eck fistulas, it was shown that tryptamine increased in the brain of animals that had received both tryptophan and trancypromine. Certain amino acids proved to be sedatives for chicks; other amino acids increased excitement. Use of a monamine oxidase inhibitor prior to the sedative amino acids potentiated some sedative effects but changed the indoleamine acids to excitants. 34 references.

099645 Marsden, C.A.; Broch, O.J., Jr.; Guldberg, H.C. Department of Pharmacology, University of Bergen Medical School, Bergen, Norway Catechol-O-methyl transferase and monoamine oxidase activities in rat submaxillary gland: effects of ligation, sympathectomy and some drugs. *European Journal of Pharmacology (Amsterdam) (An International Journal)* 15(3):335-342, 1971.

Catechol-O-methyl transferase (COMT) and monoamine oxidase (MAO) activities of rat submaxillary glands were determined after sympathectomy, ligation of the excretory duct, and combined sympathectomy and ligation. Changes in the enzyme activities of the gland were also studied after the following drugs: reserpine (5mg/kg), alpha-methyl-p-tyrosine (300mg/kg X2), and desipramine (25mg/kg X 3). Ligation caused a marked reduction in MAO activity and also affected the COMT activity of the gland. Postganglionic sympathectomy reduced MAO and COMT activities. Glands from rats that had been sympathectomized and ligated showed particularly low COMT activities. Both reserpine and alpha-methyl-p-tyrosine resulted in reduced enzyme activities which were apparent a few hours after drug administration. Desipramine caused a small, but not significant, fall in the MAO activity with no effect on COMT. The results are discussed in relation to the supposed cellular localization of COMT. It is suggested that noradrenaline, as the transmitter, plays a role in determining COMT activity. 32 references. (Author abstract)

099647 Frisk-Holmberg, Marianne; Lluch, Salvador; Rosell, Sune. Department of Pharmacology, Karolinska Institutet, Stockholm, Sweden Chlorpromazine-induced histamine release and lipolysis in canine adipose tissue in situ. *European Journal of Pharmacology (Amsterdam)* 15(3):350-354, 1971.

A study of the effects of chlorpromazine on lipid mobilization and its possible relation to histamine release is described. Chlorpromazine injections, 200-700 micrograms, and infusions released histamine, free fatty acids, and glycerol from blood perfused canine subcutaneous adipose tissue; concomitantly there was vasodilatation. In addition, chlorpromazine inhibited vasoconstriction induced by sympathetic nerve stimulation. The results demonstrate that chlorpromazine is lipolytic in adipose tissue and suggest that release of endogenous histamine is one mechanism of action. 15 references. (Author abstract modified)

099648 Papeschi, R.; Sourkes, T.L.; Youdim, M.B.H. Laboratory of Chemical Neurobiology, Department of Psychiatry, McGill University, Montreal, Quebec, Canada The effect of yohimbine on brain serotonin metabolism, motor behavior and body temperature of the rat. *European Journal of Pharmacology (Amsterdam)* 15(3):318-326, 1971.

Yohimbine (5 or 20mg/kg given intraperitoneally) increased the concentration of brain serotonin and decreased that of 5-hydroxyindoleacetic acid in the rat. The changes occurred in 2-4 hr after administration of the alkaloid. Changes in the same direction as brain were observed for serotonin in the intestine. Tryptophan in the blood was slightly increased at 2 hr, but no change was detected in the brain. Monoamine oxidase activity in vitro was inhibited only by the higher concentration of yohimbine; no inhibition was observed in vivo in the brain and the liver. Yohimbine induced as a dose dependent decrease of spontaneous locomotion and of body temperature. Corynanthine, an isomer of yohimbine, did not cause any of the above changes at the same dose levels. The results are discussed in terms of inhibition of tryptophan pyrrolase by yohimbine as well as the possible stimulation of serotonin receptors by yohimbine. This drug could be considered as a potential tool to test the involvement of serotonergic processes in endogenous depression. 40 references. (Author abstract)

099650 Sinha, J.N.; Shamsi, M.A.; Gupta, M.L.; Kohli, R.P.; Bhargava, K.P. Department of Pharmacology and Therapeutics, King George's Medical College, Lucknow - 3, India Mechanism of circulatory effects of chlorcyclizine. *European Journal of Pharmacology (Amsterdam)*. 15(3):386-388, 1971.

An attempt was made to analyze the mechanism of the circulatory effects of chlorcyclizine in cats. Intravenous administration of chlorcyclizine produced a biphasic response characterized by an initial and abrupt depressor response followed by a gradual and sustained pressor response. Analysis of this response showed that the initial depressor response was of peripheral origin and was not mediated by cholinergic, histaminergic, or serotonergic mechanisms, whereas the delayed pressor response apparently resulted from activation of supramedullary sympathetic neurones leading to a massive release of catecholamines from the sympatho-adrenal system. 12 references. (Author abstract modified)

099653 White, Richard P.; Heston, James A.; Denton, Ira C. Departments of Pharmacology, Anesthesiology and Neurosurgery, University of Tennessee Medical Units, Memphis, Tennessee 38103 Pharmacological comparison of prostaglandin F-2-alpha, serotonin and norepinephrine on cerebrovascular tone of monkey. *European Journal of Pharmacology (An International Journal)* (Amsterdam). 15(3):300-309, 1971.

The effects of prostaglandin F-2-alpha (PGF-2-alpha), serotonin (5-HT), and norepinephrine (NE) on cerebrovascular tone, external carotid pressure, and femoral arterial pressure were compared in the monkey. Cerebrovascular tone was assessed by means of a perfusion technique in which a constant flow of blood was delivered into one internal carotid artery and the perfusion pressure recorded. The drugs were administered into the perfusion system. Prostaglandin F-2-alpha (10 micrograms/kg/min) selectively increased cerebrovascular tone. In most animals it caused the perfusion pressure to rise sooner and far higher than the other pressures. In some, only the perfusion pressure rose. Serotonin (5 micrograms/kg/min) also selectively increased cerebrovascular tone. However, NE (2 micrograms/kg/min) failed to have a selective effect, all arterial pressures being similarly elevated. Apparently the receptor responsible for the action of

PGF-2-alpha on cerebral vessels is different from those for 5-HT and NE, since the latter drugs were blocked by methysergide and phenox-ybenzamine without preventing the characteristic effect of PGF-2-alpha. The possibility that PGF-2-alpha may play a role in cerebrovascular autoregulation or in the pathogenesis of vasospasm was proposed. 16 references (Author abstract)

099801 Vachon, Marc; Marchand, Claude. Dept. of Pharmacology, Faculty of Medicine, University of Montreal, Quebec Plasma magnesium concentration and urinary magnesium excretion in rats treated chronically with morphine. *Toxicology and Applied Pharmacology*. 19(4):610-616, 1971.

Since an acute dose of morphine caused changes in magnesium metabolism in rats, and since the ion is believed to be implicated in alcoholism and delirium tremens, tissue and urine magnesium were measured in rats treated chronically with morphine. The hypermagnesemia observed 1 hr. after administration of the narcotic was the same at the beginning and at the end of a chronic morphine treatment. However, 8 hr. after morphine injection, there was less magnesium in the plasma of morphinized rats; no change was observed in the concentrations of magnesium in muscle and bone. Chronic morphine treatment was associated with an increase in urine output and magnesium excretion. During morphine withdrawal, injection of magnesium had little effect on plasma concentration and urinary excretion of magnesium. These observations may be taken as evidence that magnesium does not play a major role in morphine tolerance and withdrawal phenomena. 7 references. (Author abstract)

099827 McMahon, Edward M.; Andersen, Dana K.; Feldman, Jerome M.; Schanberg, Saul M. Duke University Medical Center, Durham, North Carolina 27706 Methamphetamine-induced insulin release. *Science*. 174(4004):66-68, 1971.

Administration of methamphetamine or amphetamine to rats and mice produces a rapid increase in the level of immunoassayable plasma insulin not attributable to hyperglycemia. While in the mouse this release of insulin is followed consistently by a profound hypoglycemia, in the rat this response is variable. Studies in vitro demonstrate that insulin is released by a direct effect of methamphetamine on the pancreas. 6 references. (Author abstract)

099828 Diaz, Jose-Luis; Huttunen, Matti O. Institute de Investigaciones Biomedicas, UNAM, Mexico City Persistent increase in brain serotonin turnover after chronic administration of LSD in the rat. *Science*. 174(4004):62-64, 1971.

Lysergic acid diethylamide (LSD) at doses of 20 micrograms per kilogram per day was administered orally to rats for 1 month. Eighteen hours after the final dose a 25 to 30% increase in the synthesis and turnover of serotonin was noted, as well as a moderate but significant increase in the concentration of tryptophan (18%) and serotonin (13%) in the brain. 19 references. (Author abstract)

099852 Morrison, J. Michael, Jr.; Pritchard, Harold D.; Braude, Monique C.; D'Aguanno, William. Food and Drug Administration, Bureau of Drugs, Office of Scientific Coordination, Washington, D.C. 20204 Plasma and brain lithium levels after lithium carbonate and lithium chloride administration by different routes in rats. *Proceedings of the Society for Experimental Biology and Medicine*. 137(3):889-892, 1971.

The absorption of the lithium ion into the blood and its distribution between blood and brain after single oral and ip doses of lithium chloride and lithium carbonate in rats was examined. It was shown that lithium chloride was absorbed more rapidly into the blood than lithium carbonate after ip administration, that lithium chloride given orally is absorbed to a lesser extent than lithium carbonate, and that the patterns of oral and ip absorption of both compounds are similar. It was also shown that the movement of lithium ions into the brain is slow, that only relatively low levels are achieved, and that the lithium brain levels are directly related to and dependent on the magnitude and duration of the plasma levels. 7 references (Author abstract modified)

099967 Weiss, Benjamin; Strada, Samuel J. Laboratory of Preclinical Pharmacology National Institute of Mental Health, St. Elizabeths Hospital, Washington, D.C. 20032 Neuroendocrine control of the adenosine 3',5' - monophosphate system of brain and pineal gland. (Unpublished paper). Rockville, Md. NIMH, 1971. 13 p.

Recent work on the endogenous and exogenous factors responsible for changing the cyclic AMP system of the brain and pineal gland is reviewed. The method by which the sympathetic nervous system may induce changes in the adenylate

cyclase system is also suggested, based on investigation of the response of brain slices to norepinephrine in rats with 6-hydroxydopamine, a process that selectively destroys noradrenergic neurons. It is found that the hormone sensitive adenylate cyclase system is modified by age, neuronal activity, environmental lighting, or by treatment with 6-hydroxydopamine or estrogens. These changes take place without a corresponding alteration of the basal enzyme activity. The recent development of a rapid microassay for measuring cyclic AMP phosphodiesterase activity enabled study of the ontogenetic development of this enzyme system in various parts of the brain. These studies revealed that there exist in all areas of the brain studied, including the pineal gland, 2 phosphodiesterases. The relative activities of these phosphodiesterases are different in the various areas of the brain, and they develop postnatally at different rates. The direction for future research clearly points toward studying the physiological role for these phosphodiesterases and for determining the endogenous and exogenous factors controlling their activity. 38 references. (Author abstract modified)

100100 Egashira, Toru; Takano, Kazuo; Shimizu, Kazunori; Kurosawa, Yasuhiko; Kamijo, Kazuya. Department of Pharmacology, School of Medicine, Showa University, Shinagawa-ku, Tokyo Effect of sodium nitrite on monoamine oxidase activity in rat liver and brain. *Japanese Journal of Pharmacology (Kyoto)*. 21(2):274-276, 1971.

Effects of 0.1M sodium nitrite on monoamine oxidase (MAO) activity in rat liver and brain mitochondria were studied using tyramine, serotonin, benzylamine, butylamine, tryptamine, amylamine, hexylamine, and beta-phenylethylamine as substrates. In the liver, when tyramine and serotonin were used as substrates, MAO activity was inhibited 20-30%. Sodium nitrite increased MAO activity in the liver for all other substrates. MAO activity in the brain increased remarkably in the presence of sodium nitrite with tryamine or butylamine as substrates. No significant effect was observed in the brain when serotonin, benzylamine, or tryptamine were substrates. With all other substrates MAO activity in brain was too small to determine. When tyramine was used as a substrate, MAO activity in the brain increased gradually with increasing concentration of sodium nitrite. When serotonin, benzylamine, or butylamine were substrates,

MAO activity in brain was slightly inhibited at a higher concentration of sodium nitrite. The results suggest the existence of multiple forms of MAO. 8 references.

**100103** Seeds, Nicholas W.; Gilman, Alfred G. Departments of Biophysics and Genetics and Psychiatry, University of Colorado Medical Center, Denver 80220 Norepinephrine stimulated increase of cyclic AMP levels in developing mouse brain cell cultures. *Science*. 174(4006):292, 1971.

Norepinephrine causes a four to sixfold increase in the intracellular level of cyclic AMP (adenosine 3',5'-monophosphate) reaggregated brain cell cultures derived from embryonic mouse brain. The cyclic AMP level of adult brain is increased by norepinephrine; however, embryonic mouse brain does not show a cyclic AMP response. The aggregate cultures thus demonstrate an event of differentiation very similar to that seen in vivo. 10 references. (Author abstract)

**100169** Hamon, Neil W.; Youngken, Heber W., Jr. College of Pharmacy, University of Saskatchewan, Saskatoon, Saskatchewan, Canada The metabolism of tritiated atropine in *Datura innoxia*. *Journal of Natural Products*. 34(2):199-203, 1971.

Tritiated atropine when fed to mature plants of *Datura innoxia* was metabolized at a rapid rate over a period of 1 to 20 days. Almost 60% degradation occurred the first day and only 1.5% remained as alkaloid after 20 days. This isotropic alkaloid also decreased in plants of earlier stages of growth. The tritiated form was not used significantly as a precursor for hyoscyne. 26 references. (Author abstract)

**100212** Joy, R.M.; Hance, A.J.; Killam, K.F., Jr. Department of Physiological Sciences, School of Veterinary Medicine, University of California, Davis, Calif. 95616 A quantitative electroencephalographic comparison of some benzodiazepines in the primate. *Neuropharmacology* (Oxford, England). 10(4):483-497, 1971.

Eleven benzodiazepines were tested for their effects on the spontaneous EEG in the monkey, *Macaca nemestrina*. Dose response studies made it possible to separate these compounds into 3 distinct groups. While all the benzodiazepines produced alpha-slowing and an increase in low frequency components at comparatively high doses, they differed in their capability to induce

spindle-like activity in the frontal and to a lesser extent in the parietal, cortices. Some of the compounds, including diazepam, chlordiazepoxide, and nitrazepam at certain doses, produced a selective enhancement of spindle-like activity which completely dominated the frontal EEG. Others including prazepam did not produce a significant appearance of spindles. Some were intermediate in their characteristics. Spindle-like activity could be differentiated from barbiturate spindles and they behaved qualitatively like control beta-activity. Chronic diazepam administration produced different effects from acute administration. Dominant frequencies restabilized across the cortex at a frequency significantly higher than control-alpha. After 11 days of behaviorally effective chronic administration, an additional 12 recovery days elapsed before control activity was reestablished. 13 references. (Author abstract)

**100216** Hurwitz, D.A.; Robinson, S.M.; Barofsky, I. College of Pharmacy, University of New Mexico, Albuquerque, New Mexico The influence of training and avoidance performance on disulfiram-induced changes in brain catecholamines. *Neuropharmacology* (Oxford, England). 10(4):447-452, 1971.

Norepinephrine and dopamine pools in the central nervous system were measured after the administration of disulfiram to rats trained on a discriminated avoidance schedule and the effects were compared with those produced by the treatment of naive (untrained) controls with disulfiram. Norepinephrine and dopamine levels before treatment with disulfiram were the same in trained and untrained rats. After disulfiram, norepinephrine was reduced to the same extent in control and trained animals; however, when the rats performed on the avoidance schedule before or after drug, a further reduction in norepinephrine was noted. Dopamine pools after the administration of disulfiram were decreased in naive rats, but increased in all trained rats whether performing or not. There was no decrease in performance after treatment with disulfiram despite a 60% reduction in norepinephrine. The difference in drug effect noted in the trained, performing rat emphasizes the importance of conducting biochemical measurements in this animal rather than attempting to extrapolate from data in untrained controls. 23 references. (Author abstract)

100218 Leonard, B.E. Pharmacology Section, Pharmaceuticals Division, Imperial Chemical Industries Ltd., Alderley Park, Macclesfield, Cheshire, England The effect of some beta-adrenergic blocking and other drugs on brain lactate levels following electroshock. *Neuropharmacology (Oxford, England)*. 10(4):517-520, 1971.

Seven beta-adrenergic blocking drugs, 3 related compounds and phenoxybenzamine, chlor-diazepoxide and sodium phenobarbitone, were investigated for their effect on brain lactate levels after electroshock. Only dl-propranolol and d-propranolol significantly reduced the elevated lactate levels at a dose which did not reduce the severity of the convulsion. 9 references.(Author abstract)

100219 Mandell, A.J.; Knapp, Suzanne. Department of Psychiatry, School of Medicine, University of California at San Diego, La Jolla, Calif. 92037 The effects of chronic administration of some cholinergic and adrenergic drugs on the activity of choline acetyltransferase in the optic lobes of the chick brain. *Neuropharmacology (Oxford, England)*. 10(4):513-516, 1971.

Chicks receiving methadrine, reserpine and 6-hydroxydopamine for 2 or 3 days showed significant increases in optic lobe choline acetyltransferase. Atropine and neostigmine did not produce this change. The methadrine induced change occurred within 6 hours. Methadrine did not activate this enzyme in vitro however. This latter finding and the failure of acetoxycycloheximide to decrease measurable enzyme in 6 hours suggest that the amphetamine induced increase may be due to an increase in synthesis of choline acetyltransferase rather than either a steric activation or a decrease in degradation of the enzyme. 14 references.(Author abstract)

100220 Quadri, S.K.; Meites, Joseph. Department of Physiology, Michigan State University, East Lansing, Mich. 48823 LSD-induced decrease in serum prolactin in rats. *Proceedings of the Society for Experimental Biology and Medicine*. 137(4):1242-1243, 1971.

A single ip injection of 25, 50 or 100 micrograms of LSD (lysergic acid diethylamide)/100g of body weight into female rats on the morning of proestrus significantly decreased serum prolactin levels, and prevented the normal rise observed in control rats on the afternoon of proestrus. The 100 microgram dose of LSD produced a signifi-

cantly greater decrease in serum prolactin than the 25 microgram dose. This action of LSD is shared by other ergot drugs. 13 references.(Author abstract)

100221 Proakis, A.G.; Mennear, J.H.; Miya, T.S.; Borowitz, J.L. Department of Pharmacology and Toxicology, Purdue University, Lafayette, Ind. 47907 Phenothiazine-induced hyperglycemia: relation to CNS and adrenal effects. *Proceedings of the Society for Experimental Biology and Medicine*. 137(4):1385-1388, 1971.

The ability of 5 phenothiazines to induce hyperglycemia, to decrease motor activity in mice, and to release catecholamines from isolated bovine adrenals, was not well correlated. Fluphenazine produced the greatest CNS depression with a minimal hyperglycemia. Chlorpromazine produced the greatest hyperglycemia but was not the best releasing agent in isolated adrenals. It appears that the hyperglycemic action of the phenothiazines may be minimized without sacrificing CNS activity by selecting the appropriate derivative. Variation in extra-adrenal effects on blood sugar may explain the lack of correlation between production of hyperglycemia and adrenal catecholamine release by the phenothiazines studied. 12 references.(Author abstract)

100334 Samochowiec, L.; Wojcicki, J.; Kadykow, M. Dept. of Pharmacology, Academy of Medicine, Szczecin, Poland The influence of 1,5-dicaffeoylquinic acid on serum lipids in the experimentally alcoholised rat. *Panminerva Medica (Torino, Italy)*. 13(3):87-89, 1971.

The influence of 1,5-dicaffeoylquinic acid (Cynarine) on enhanced total lipid and esterified fatty acid values in blood serum was determined in albino rats receiving ethyl alcohol for a period of 70 days. A statistically significant increase in esterified fatty acids and a smaller increase in total lipids were observed. These changes were prevented by the simultaneous administration of Cynarine. The present finding of a positive action on the part of Cynarine in chronic experimental alcoholism will require explanation by an examination of the liver, more particularly with respect to the comparison of serum and liver lipids. 13 references. (Author abstract modified)

100505 Fahse, Ch.; Lietz, W.; Matthies, H. Institut für Pharmakologie und Toxikologie der

Medizinischen Akademie Magdeburg. /Studies on the methamphetamine stimulation in mice./ Untersuchungen zur Methamphetaminerregung an Mäusen. *Acta Biologica et Medica Germanica (Magdeburg)*. 26(6):1223-1227, 1971.

Methamphetamine stimulation of white mice has been assessed by means of a scale of symptoms, and the influence of reserpine, alpha-methyl-Dopa and Dopa, as well as of tetrabenazine and yohimbine was tested. Reserpine was found to affect methamphetamine stimulation, depending on the time of its action, but is unable to suppress it. Tetrabenazine and yohimbine, however, can fully suppress the stimulation. 16 references.(Author abstract)

100506 Fahse, Ch.; Matthies, H. Institut für Pharmakologie und Toxikologie der Medizinischen Akademie Magdeburg, Germany /Studies on analgesic effects of MAO inhibitors./ Untersuchungen über die analgetischen Wirkungen von MAO-Hemmstoffen. *Acta Biologica et Medica Germanica (Magdeburg)*. 26(6):1215-1221, 1971.

Five monoamine oxidase inhibitors were tested both for their own analgesic effects and for their influence on morphine analgesia on rats. Methyl benzylpropylamine phenylisopropylhydrazine, phenylethylhydrazine, and tranlylcypromine revealed analgesic effects which were even intensified by morphine. Iproniazide, however, failed to give any clear results. 12 references.(Author abstract)

100508 Leslie, Crystal A.; Gottesfeld, Zehava; Elliott, K.A.C. Dept. of Biochemistry, McGill University, Montreal, Quebec Effect of ethanol on entry of some substances into the brains of rats. *Canadian Journal of Physiology and Pharmacology (Ottawa)*. 49(9):833-840, 1971.

The effects were studied of a subanesthetic dose of ethanol on the entry into the brains of rats of 3 <sup>14</sup>C-labelled substances which are known to affect brain function. All substances were given intraperitoneally. When ethanol was given the concentration of pentobarbital in the brain reached and was maintained at a higher level than without ethanol. The barbiturate entered the brain and became distributed between plasma, red cells, and brain extremely rapidly in the presence or absence of ethanol. Administration of ethanol decreased the rate of breakdown of pentobarbital, so that higher levels of unchanged pentobarbital were maintained in

blood, liver, and brain. Breakdown of the barbiturate occurred rapidly in liver but almost no radioactive breakdown products entered or were formed in the brain. Thiamine entered the brain sparingly but, after 60 min, the ratio of radioactivity per gram of brain to that per milliliter of plasma became considerably greater with ethanol than without. In the absence or presence of ethanol this ratio increased with time due to a rapid disappearance of radioactivity from the plasma while radioactivity in the brain tended to increase slightly. In the presence of ethanol the rate of disappearance from the plasma increased, presumably due to increased uptake and metabolism of thiamine by other tissues. Urinary excretion of radioactivity decreased. Injected gamma-aminobutyric acid (GABA), entered the brain very sparingly and much of what entered was metabolized. Ethanol had no effect on the endogenous GABA concentration in the brain nor on the entry or metabolism of injected GABA. 50 references.(Author abstract modified)

100566 Naylor, R.J.; Costall, B. Postgraduate School of Studies in Pharmacology, University of Bradford, Yorkshire, England The relationship between the inhibition of dopamine uptake and the enhancement of amphetamine stereotypy. *Life Sciences*. 10(16):909-915, 1971.

An experiment was designed to determine the relationship between inhibition of dopamine uptake and the enhancement of amphetamine stereotypy. Rats were pretreated with an intraperitoneal injection of either benztropine, orphenadrine, benzhexol, phenindamine, chlorpheniramine, diphenylpyraline or amantadine 30 minutes before an intraperitoneal injection of 2.5mg/kg amphetamine. Results showed that anticholinergic and antihistaminic agents increased amphetamine stereotyped behavior. Their effectiveness in enhancing this dopaminergic mediated behavior could not be correlated with their respective abilities to inhibit dopamine uptake. Amantadine failed to enhance the stereotypy. Therefore, the therapeutic effectiveness of these drugs in Parkinson's disease may not be solely dependent upon the inhibition of dopamine uptake. 14 references. (Author abstract modified)

100868 Bazan, N.G., Jr. Instituto de Investigaciones Bioquímicas, Universidad Nacional del Sur, Avenida Alem 1253, Bahía Blanca, Argentina Changes in free fatty acids of brain by drug-in-

duced convulsions, electroshock and anaesthesia. *Journal of Neurochemistry*. 18(8):1379-1385, 1971.

The size of the free fatty acid pool in rat brain was significantly increased following convulsions induced by pentylenetetrazol as well as by electroconvulsive shock. Other convulsants such as D-methionine-DL-sulphoximine and the dibutyl analog of adenosine 3',5'-monophosphate did not alter the levels of free fatty acids. Diethyl ether anaesthesia suppressed the stimulatory effect of electroshock on the generation of free fatty acids in brain, but the effect was not seen with the anaesthetic pentobarbitone sodium. The lack of an inhibitory effect of either anaesthetic on the free fatty acid production which was induced in brain by ischemia supported the view that the action of electroshock was not merely the result of anoxia. The prominent increase in size of the free fatty acid pool in brain thus appeared to be specific for electroshock and pentylenetetrazol convulsed rats. It is proposed that the changes in the free fatty acids might be involved in the regulation of membrane functioning. 23 references. (Author abstract modified)

**101287** MacDonnell, M.F.; Fessock, L.; Brown, S.H. Center of Alcohol Studies, Rutgers University, New Brunswick, New Jersey 08903 Aggression and associated neural events in cats: effects of parachlorophenylalanine compared with alcohol. *Quarterly Journal of Studies on Alcohol*. 32(3A):748-763, 1971.

Changes in spontaneous and brain stimulated aggression in cats and correlated electrophysical events attending changes in levels of brain serotonin are described. The results are compared with alcohol data on the same set of observations and measurements. No definitive support is available from these data for any particular hypothesis of alcohol activity. But it is suggested that low doses of alcohol act in some manner to block serotonin modulated hypothalamic events regulating the expression of affective defense, moderate doses of ethanol act to enhance such serotonin modulated events, and another period of blocking of serotonin-modulated events might occur during the later phases of recovery from moderate doses of ethanol (during rebound hyperexcitability). 32 references. (Author abstract modified)

**101525** Webb, Sandra N. Pharmacology Department, Strathclyde University, Scotland Diazepam

and neuromuscular blocking drugs. *British Medical Journal (London)*. 3(5775):640, 1971.

In anesthetized cats, diazepam in intravenous doses of 0.2, 0.4, and 1mg/kg did not interact with either gallamine (0.75 to 1mg/kg) or tubocurarine (0.1 to 0.4mg/kg) at the neuromuscular junction. These findings do not support the observation of Drs. Feldman and Crawley that diazepam potentiates gallamine in man, and gives rise to persistent postoperative muscle weakness and respiratory depression. 5 references.

**101541** Menon, M.K.; Clark, W.G.; Aures, D. Psychopharmacology Research Laboratory, Veterans Administration Hospital, Sepulveda, Calif. 91343 Effect of thiazol-4-ylmethoxyamine, a new inhibitor of histamine biosynthesis on brain histamine, monoamine levels and behavior. *Life Sciences*. 10(9):1097-1109, 1971.

Five histidine decarboxylase inhibitors, 2 of which are new, were tested for their effects on brain histamine (Hm) levels in rats. Of these, only one of the new ones, thiazol-4-ylmethoxyamine (TMA) lowered brain Hm under the experimental conditions applied. A single dose of 100mg/kg intraperitoneal TMA caused a gradual fall in Hm level, reaching the lowest level, 10% of control, at 72 hours. With either dose, recovery occurred within 4 days. In a dose of 100mg/kg, the only dramatic brain monoamine change observed was a 40% depletion of dopamine, seen at 72 hours. Some preliminary correlative pharmacological and behavioral effects are also reported. 41 references. (Journal abstract)

**101542** Selye, H. Institut de Medecine et de Chirurgie Experimentales, Universite de Montreal, Montreal, Quebec, Canada Protection against LSD by various steroids. *Life Sciences*. 10(19):1135-1140, 1971.

In rats, the dyskinesia elicited by a severe LSD intoxication was well prevented by pregnenolone-16-alpha-carbonitrile (PCN), Catatoxic Steroid Number 1, ethylestrenol, norbolethone, prednisolone, triamcinolone and estradiol, but only just significantly by progesterone and phenobarbital. It is evident that steroids greatly differing in their classic hormonal, as well as in their enzyme inducing, capacities can offer considerable protection against LSD intoxication. 20 references. (Journal abstract)

**101543 Hitzemann, Robert J.; Loh, Horace H.; Domino, Edward F.** Drug Dependence Research Center, Mendocino State Hospital, Talmage, Calif. 95481 Effect of para-methoxyamphetamine on catecholamine metabolism in the mouse brain. *Life Sciences*. 10(19):1087-1095, 1971.

Para-methoxyamphetamine (PMA) was found to be ineffective in altering the levels of mouse brain DA and NE at doses of 3 and 10mg/kg but a significant decrease in these amines was observed at 30mg/kg. In contrast, all doses of PMA tested markedly elevated brain serotonin and decreased brain 5-hydroxy-3-indole acetic acid. PMA caused a dose related decrease in the accumulation of 14C-NE formed from 14C-tyrosine but increased the levels of 14C-NE formed from 14C-DOPA. Furthermore, PMA increased the accumulation of 14C-NM formed from 14C-tyrosine in a manner similar to d-amphetamine. Of the doses tested, only 30mg kg of PMA increased psychomotor activity. 23 references.(Journal abstract)

**101701 Marcucci, F.; Guitani, A.; Fanelli, R.; Mussini, E.; Garattini, S.** Istituto di Ricerche Farmacologiche 'Mario Negri', Via Eritrea 62, Milan, Italy Metabolism and anticonvulsant activity of diazepam in guinea pigs. *Biochemical Pharmacology (Oxford)*. 20(7):1711-1713, 1971.

The metabolism and anticonvulsant activity of diazepam in guinea pigs was studied. The anticonvulsant activity of diazepam in guinea pigs is mostly correlated in the brain with the presence of diazepam and N-demethyldiazepam. In comparison to other animal species guinea pigs are different from either rats or mice in metabolizing diazepam in vivo. In fact guinea pigs are similar to mice in respect to accumulation of N-demethyldiazepam, but similar to rats for the lack of accumulation of oxazepam. 4 references.

**101702 Torchiana, M.L.; Porter, C.C.; Stone, C.A.; Watson, L.S.; Scriabine, A.; Hanson, H.M.** Merck Institute for Therapeutic Research, West Point, Pa. 19486 Some biochemical and pharmacological actions of (-)erythro-meta-(meta-chlorobenzoyloxy)-2-(1-aminoethyl)-benzyl alcohol: a derivative of metaraminol. *Biochemical Pharmacology (Oxford)*. 20(7):1537-1547, 1971.

(-)Erythro-meta-(meta-chlorobenzoyloxy)-2-(1-aminoethyl)-benzyl alcohol, a meta-chlorobenzyl ether of metaraminol, administered to mice, rats and dogs, causes depletion of peripheral stores of norepinephrine and their partial replacement with

metaraminol. Consequently, the ether depresses adrenergic nerve transmission in dogs and lowers blood pressure in renal hypertensive rats. However, acute pressor responses are either minimal (rats) or absent (dogs) following administration of the ether, due to the slow formation of metaraminol. Unlike alpha-methyl-meta-tyrosine, the chlorobenzyl ether of metaraminol does not produce central nervous system effects. In the brain the amino acid is converted to metaraminol, while metaraminol as derived from the ether is absent or appears only in low concentration. 18 references. (Author abstract)

**101703 Shand, D.G.; Oates, J.A.** Dept. of Pharmacology, Vanderbilt Univ., Nashville, Tenn. Metabolism of propranolol by rat liver microsomes and its inhibition by phenothiazine and tricyclic antidepressant drugs. *Biochemical Pharmacology (Oxford)*. 20(7):1720-1723, 1971.

The metabolism in vitro of propranolol by rat liver microsomes has been investigated and the inhibitory effects of certain phenothiazine and tricyclic antidepressant drugs tested. Pretreatment of rats with chlorpromazine or desmethyylimipramine (DMI) markedly inhibited the metabolism of propranolol by the 9000g supernatant fraction. These drugs have also been shown to inhibit the metabolism of amphetamine and guanethidine. DMI can inhibit the metabolism of pentobarbital, tremorine and oxotremorine. It was shown that propranolol inhibition by chlorpromazine and DMI can be overcome by increasing concentrations of substrate. It is, of course, impossible to extrapolate these findings to man, but the possibility that a similar interaction could occur in patients merits further investigation. In this regard, the nature of the kinetics involved is of some importance, for if inhibition is competitive, it should be reversible and dose dependent. 7 references.

**101704 Dost, F.N.; Reed, D.J.; Wang, C.H.** Science Research Inst., Dept. of Biochemistry and Biophysics, Oregon State Univ., Corvallis, Oregon 97331 Effects of various hydrazines upon the metabolism of gamma aminobutyric acid (GABA)-1-14C by rats. *Biochemical Pharmacology (Oxford)*. 20(7):1702-1707, 1971.

Nonlethal doses of hydrazine strongly inhibit the extensive transamination of gamma aminobutyric acid-1-14C (GABA-1-14C and beta-alanine-1-14C in intact rats as determined by alterations in

production of  $14\text{CO}_2$  from these compounds. Alkylhydrazines cause a much less pronounced change. Unsyrmmetrical dimethylhydrazine (UDMH), hydrazine and monomethylhydrazine (MMH) were tested. The observed early but non-persistent depression of GABA and beta-alanine oxidation by both alkylhydrazines is unexplained. It is doubtful that this similar effect by 2 compounds reflects change in the central nervous system, since it has been known that the GABA transaminase activity of brain removed from MMH intoxicated animals is much more extensively inhibited than that of animals treated with UDMH. The maximum rate of turnover of GABA by intact animals has yet to be measured, but during the initial 2 hr of catabolism of single doses of 4.0m-moles GABA/kg, the maximum rate of conversion of C-1 of GABA to  $\text{CO}_2$  was about 15% of the total dose per hour. This is a significant fraction of the roughly 10 m-moles  $\text{CO}_2$ /hr expected from rats of this size. Since nonnervous tissues have the capability to synthesize GABA, this degree of utilization suggests that the GABA pathway may be significant in the metabolism of tissues other than brain. The appearance of un-metabolized GABA-14C in the urine of hydrazine-ized rats suggests that no alternative pathway to transamination and entry into the Krebs cycle exists for GABA. 23 references.

**101705 Ueda, Issaku; Wada, Tomio; Ballinger, C.M.** Div. of Anesthesiology, Univ. of Utah College of Medicine, Salt Lake City, Utah 84112 Sodium- and potassium-activated ATPase of beef brain - effects of some tranquilizers. *Biochemical Pharmacology (Oxford)*. 20(7):1697-1700, 1971.

The effects of some tranquilizers on partially purified sodium and potassium activated ATPase of beef brain is reported. Three chemically unrelated agents were studied: a piperazine derivate, hydroxyzine; a butyrophenone derivative, haloperidol; and a benzodiazepine derivative, diazepam. Enzyme preparation is described. The effects of the 3 drugs on the enzyme preparation were studied in a standard media with several cationic concentrations. In all cases no stimulation of enzyme activity was observed at the tested concentrations, nor was there a reversal of the inhibitory action of calcium ion upon the enzyme activity. The reversibility of the inhibition and its dependency on pH was also studied. 14 references.

**101768 Smit, E.M.; Borst, P.** Laboratory of Biochemistry, Department of Medical Enzymology, University of Amsterdam LSD-25 does not intercalate in DNA. *Nature*. 232(5307):191, 1971.

In order to determine if LSD-25 causes chromosome abnormalities by intercalation with DNA, the effects of LSD-25 and the intercalating dye ethidium were compared on the closed circular duplex DNA of bacteriophage PM2. No interaction between DNA and LSD-25 was detectable in the concentration range in which strong interaction had been previously reported. Spectrophotometric data on different mixtures of the 2 substances confirmed the finding. It was concluded that chromosome damage is not a result of the intercalation of LSD-25 with DNA. However, during the investigation it was noted that irradiation of DNA with ultraviolet light in the presence of LSD-25 led to phosphodiester bond breakage. There was no conversion when DNA - LSD mixtures were kept in the dark. LSD-25 dependent photodestruction of DNA could therefore contribute to chromosome damage. 15 references.

**101769 Brady, A.H.; Brady, Elisabeth M.; Boucek, F.C.** Department of Medicine, University of Miami School of Medicine, Miami, Florida Optical activity of LSD-DNA mixtures. *Nature*. 232(5307):189-190, 1971.

Spectral studies of circular dichroism have failed to show that lysergic acid diethylamide (LSD) intercalates in DNA. The circular dichroism of the d-LSD - DNA complex results simply from a combination of the individual d-LSD and DNA spectra. DNA from *Bacillus subtilis*, *Escherichia coli*, bovine spleen, sheep bone marrow and phage T4 gave the same negative results. Also, the behavior of dn, ln, and d-2-bromo-LSD in the presence of DNA is the same. There is no similarity in behavior between the LSD - DNA solutions and the intercalated ethidium bromide - DNA complex. The importance of measuring relative concentrations of dn and ln forms and of uniformity of preparations is emphasized. Conflicting results of LSD induced chromosomal damage could be attributed to differences in isomer concentration and buffering agents. 14 references.

**101846 Coyle, J.T.; Axelrod, J.** Laboratory of Clinical Science, National Institute of Mental Health, Bethesda, Maryland 20014 Development of the uptake and storage of L-03H0 norepinephrine

in the rat brain. *Journal of Neurochemistry*. 18(11):2061-2075, 1971.

The uptake and storage of L-03H0norepinephrine at various stages of development was examined in homogenates of rat brain. For the adult animal, active uptake accounted for 80% of the total uptake. At 14 days of gestation, no active uptake was demonstrable. At 18 days of gestation, saturable uptake of L03H0norepinephrine was first demonstrable. The maximum velocity of uptake increased 5 fold between 18 days of gestation and 28 days post-natally, at which stage it was the same as the adult value. The development of saturable uptake paralleled but preceded the increase in endogenous norepinephrine. When homogenates were incubated with L-03H0 norepinephrine and subjected to centrifugation, there was a peak of tritium in the synaptosomal fractions; the magnitude of the peak increased with maturation of the brain. Desipramine, a compound that blocks the initial uptake of norepinephrine, first exhibited subsequent development. In contrast, reserpine, a compound which inhibits the intraneuronal storage of norepinephrine, exhibited a progressive increase of inhibition with maturation of the brain at and subsequent to 19 days of gestation. 50 references.(Author abstract modified)

101847 Tjoe, Sarah; Haugaard, N.; Bianchi, C.P. Department of Pharmacology, Ohio State University, Columbus, Ohio The effects of psychoactive agents on calcium uptake by preparations of rat brain mitochondria. *Journal of Neurochemistry*. 18(11):2171-2178, 1971.

The effects of chlorpromazine and other psychoactive agents on the uptake of calcium by partially purified preparations of mitochondria from rat brain were studied in vitro. Chlorpromazine at concentrations of about 0.1millimole caused a marked inhibition of mitochondrial calcium transport. Perphenazine also exhibited this action and was slightly more potent than chlorpromazine. Imipramine inhibited mitochondrial calcium uptake but higher concentrations were necessary than in experiments with chlorpromazine. The sulfoxide of chlorpromazine did not inhibit calcium transport when tested at concentrations similar to those used with chlorpromazine. Up to concentrations of 20 millimole, lithium ions did not influence mitochondrial calcium uptake. 25 references.(Author abstract)

101959 Kato, L.; Gozsy, B.; Ban, T.A.; Sterlin, C. Institut de Microbiologie et d'Hygiene de l'Universite de Montreal, Quebec, Canada Effects of psychoactive agents on the conditioning of the microcirculation in the rat. *Conditional Reflex*. 6(2):67-77, 1971.

The differential effects of psychoactive drugs on the conditioning of the rats' microcirculation was investigated in a controlled study. Normal vascular tonus and permeability of the microcirculatory network is mediated by catecholamines, histamine and serotonin. Following electroconvulsive treatment (ECT), histamine did not provoke local vasodilatation. The inhibition was further potentiated by drugs which prevent the enzymatic or physical inactivation of free catecholamines and by locally administered norepinephrine. This system became conditioned to a visual stimulus when rats were presented in 6 consecutive occasions with the visual stimulus preceedingly coincided with the administration of ECT. In the conditioned rats, light alone inhibited the histamine induced vasodilatation, and this inhibition was potentiated by subeffective doses of injected norepinephrine and by drugs which prevent the enzymatic or physical inactivation of catecholamines. Sedatives, antidepressants, MAO inhibitors and the chlorpromazine type agents as well as the psychotomimetic drugs characteristically influence either the acquisition or the extinction of the conditioned reflex. Results suggest that the obtained conditioning of the microcirculatory functions are mediated by the centrally released catecholamines. 14 references. (Author abstract modified)

102102 Brimblecombe, R.W.; Coult, D.B.; Deane, C.C.; Parkes, D.C. Chemical Defence Establishment, Porton Down, Salisbury, Wilts, England Biochemical and behavioural effects of some halo-substituted vinyl phosphorus esters. *Biochemical Pharmacology (Oxford)*. 20(7):1733-1737, 1971.

Some halogen containing vinyl phosphorus esters considered as potential pesticides were examined. Their activities in inhibiting various cholinesterase preparations have been studied and attempts made to relate their antienzyme activity to their activity in modifying behavior. Some related saturated esters were also included. All these halogen containing phosphorus esters are inhibitors of both acetylcholinesterase and cholinesterase. The rats in the toxicity experiments showed signs typical of poisoning by an-

ticholinesterase agents. The behavioral effects of the compounds in the open field test seemed, however, not to be related to their enzyme inhibiting activity. In addition, the results of in vivo studies indicated that brain acetylcholinesterase levels were virtually unaffected by doses of the compounds which were effective in modifying open field behavior. The acetylcholinesterase determinations were made 90 min after injection at which time the open field tests were carried out. The most obvious explanation of these findings is that the phosphorus esters are producing their effects on behavior by means other than the inhibition of acetylcholinesterase. An alternative possibility is that the behavioral effects observed are due to inhibition of other brain esterases or indeed that they are manifestations of peripheral rather than central actions of the drugs. The precise significance of the effects of open field behavior is not clear. It has been possible with certain classes of psychotropic drugs to extrapolate to man from results obtained using the open field, but in this case the compounds did not produce a common effect and extrapolation is impossible. It seems clear that these halogen containing phosphorus esters can produce certain behavioral effects at doses which have little or no effect on brain and blood acetylcholinesterase levels. 12 references.

**102391** Chhina, G.S.; Kang, H.K.; Singh, B.; Anand, B.K. Dept. of Physiology, All-India Institute of Medical Sciences, New Delhi-16, India Effect of fenfluramine on the electrical activity of the hypothalamic feeding centers. *Physiology & Behavior*. 7(3):433-438, 1971.

The effects of Fenfluramine, an amphetamine derivative with a strong appetite depressing action, on the electrical activity of the hypothalamic feeding centers were examined. Electrodes were stereotactically implanted in the lateral hypothalamic feeding center and medial satiety center as well as in other hypothalamic and cerebral regions in male rhesus monkeys. Electrical activity of these regions was recorded electroencephalographically, before and following iv injections of Fenfluramine given daily for 7-10 days in doses of 1.5mg/kg and 3mg/kg body weight respectively. In addition changes in the eating behavior, daily food intake, body weight and general behavior were observed. In another set of animals arteriovenous glucose differences (to provide indices of glucose utilization in the

body) in response to Fenfluramine injections were estimated. Fenfluramine in doses of 1.5mg/kg gradually resulted in slow wave activity in the feeding center, which became more pronounced after subsequent injections thus demonstrating a cumulative effect. This coincided with anorexic behavior and decrease in food intake. The activity of the satiety center changed to low voltage fast response, specially in starving animals. Arteriovenous glucose estimations suggest that the effects of Fenfluramine may be due to the increased level of glucose utilization in the body. Injections in doses of 3mg/kg however produced a generalized drowsy response. 14 references. (Author abstract modified)

**102512** Schwartz, James H.; Castellucci, Vincent F.; Kandel, Eric R. Department of Microbiology, New York University Medical School, New York 10016 Functioning of identified neurons and synapses in abdominal ganglion of *Aplysia* in absence of protein synthesis. *Journal of Neurophysiology*. 34(6):939-953, 1971.

An examination was made of 3 identified neurons (R2, R15 and L7) in the abdominal ganglion of *Aplysia californica* to study the relation between neuronal function and protein synthesis. It was found that inhibition of protein synthesis by 95% for as long as 30 hr does not interfere with the neurophysiological functioning of these 3 cells. For a period of at least 5 hr after removal from the animal, the ganglion incorporates radioactive amino acids into protein at a constant rate. This incorporation is not blocked by puromycin, cycloheximide, emetine, or diphtheria toxin, agents commonly used in other eucaryotic organisms, nor is it affected by streptomycin, chloramphenicol, or erythromycin. Protein synthesis in *Aplysia* is, however, inhibited by more than 95% by anisomycin, sparsomycin, and pactamycin. During inhibition of protein synthesis the different neurophysiological properties of cells R2, R15, and L7 (resting membrane potential, spike generation, endogenous firing patterns, and synaptic transmission) were not altered. In addition, 2 short-term plastic changes in synaptic function (posttetanic potentiation and the neural correlates of habituation and dishabituation) also were unaffected. 47 references. (Author abstract modified)

**102635** Miller, Richard Lou. University of Houston Behavioral and EEG patterns in the cat

coincident with systematic and intracranial stimulation with d-amphetamine sulfate during a visual discrimination task. (Ph.D.dissertation). *Dissertation Abstracts International*. Ann Arbor, Mich., Univ.M-films, No.71-13529 HC\$10.00 MF\$4.00 122 p.

The behavioral and electroencephalographic (EEG) effects of d-amphetamine sulfate injection into the basolateral amygdala, posterior hypothalamus, ventral hippocampus, and medial thalamic area were compared with a saline control injection, and a central administration of amphetamine delivered via the interperitoneal cavity during a behavioral task. The order of drug administration to the respective areas in each of 6 adult male cats was balanced in a latin square design. These findings were related to the psychopharmacological properties of amphetamine and its actions on norepinephrine, as well as neuroanatomical structures in the brain possessing high concentrations of norepinephrine. The amygdala and hypothalamus were implicated as unusually active in this context. Further implications were drawn regarding the prevalence of 40 c/sec electrical activity as an electrophysiological correlate of learning. (Journal abstract modified)

**102694 Ornellas, M-R.** Department of Biochemistry, Institute of Psychiatry, De Crespigny Park, London S.E.5 Biochemical studies of cerebral subfractions after chronic administration of pyridazine (N-morpholine 3-ethylamine 4-phenyl 6-pyridazine hydrochloride, AG 620). *Biochemical Pharmacology (Oxford)*. 20(90):2141-2147, 1971.

The effects of chronic administration of pyridazine (N-morpholine 3-ethylamine 4-phenyl 6-pyridazine hydrochloride) on total protein, RNA content and ATPase and AChE activities of subcellular fractions of rat brain were determined. The subcellular fractions were prepared by separation on a discontinuous sucrose gradient after removal of nuclei and debris. It was found that the drug increased the total protein in the fractions corresponding to the microsomes and synaptosomes but no increase of RNA was observed in the same fractions. The drug caused inhibition of sodium and potassium salts of ATPase which was greatest in the microsomal fraction and of AChE, greatest in the fraction corresponding to the synaptosomes. 27 references. (Author abstract)

**102695 Berman, Howard M.; Sprites, Morris A.** Neurobiological Laboratories, Veterans Administration Hospital, Leech Farm Road, Pittsburgh, Pa.15206 Gas chromatographic analysis of chlorpromazine and its metabolites formed by hepatic microsomes -- I.Influence of magnesium. *Biochemical Pharmacology (Oxford)*. 20(9):2275-2286, 1971.

The metabolism of chlorpromazine (CPZ) was studied using rat and rabbit liver microsomal preparations and the Curry extraction and gas chromatographic technique for the compounds involved, namely CPZ, chlorpromazine N-oxide, monodemethyl chlorpromazine, didemethyl chlorpromazine, chlorpromazine sulfoxide and monodemethyl chlorpromazine sulfoxide. In both liver systems, chlorpromazine N-oxide and monodemethyl chlorpromazine were found to be the major metabolites. The former accounted for 38-62% of the chlorpromazine disappearing under various experimental conditions, while the latter amounted to 28-77% in the same experiments. The 92-104% of the CPZ disappearing could be accounted for by the appearance of the metabolites measured. The addition of Mg ion to the microsomal drug oxidase experimental suspensions caused an increase in the disappearance of chlorpromazine in both the rat and rabbit. In the rat, Mg ion caused little or no increase in chlorpromazine N-oxide appearance but increased the formation of monodemethyl chlorpromazine by a factor of 2 to 3. In the rabbit the opposite was true. 19 references. (Author abstract)

**102696 Maitre, L.; Staehelin, M.; Bein, H.J.** Biochemical Research Laboratories of the Pharmaceutical Division of CIBA-BEIGY Limited, Basle, Switzerland Blockade of noradrenaline uptake by 34276-Ba, a new antidepressant drug. *Biochemical Pharmacology (Oxford)*. 20(9):2169-2186, 1971.

A neurological investigation was made of 1-(3-methylaminopropyl)-dibenzo(b,e)bicyclo-(2.2.2) octadiene hydrochloride (34276-Ba), an antidepressant drug from a new class of chemical compounds. Its effects on noradrenaline uptake have been studied and compared with those of imipramine or desmethyylimipramine. 34276-Ba was found to be a powerful inhibitor of noradrenaline uptake through the nerve cell membrane in several sympathetically innervated organs of the rat, cat and chick *in vivo*. The inhibitory effect was very pronounced in the brain as well as in peripheral tissues. The new antidepressant

sant drug also inhibited the guanethidine induced depletion of the endogenous noradrenaline stores and the uptake of <sup>3</sup>H 0metaraminol in the rat heart. Although 34276-Ba caused a concentration dependent inhibition of noradrenaline uptake into isolated bovine splenic nerve granules, it did not alter markedly the endogenous concentration of catecholamines in heart and brain even after repeated daily treatment. 32 references. (Author abstract modified)

102733 Mikes, Frantisek; Hofmann, Alfred; Waser, Peter G. Pharmacological Institute of the University of Zurich, Zurich, Switzerland Identification of (-)-delta-9-6a,10a-trans-tetrahydrocannabinol and two of its metabolites in rats by use of combination gas chromatography-mass spectrometry and mass fragmentography. *Biochemical Pharmacology (Oxford)*. 20(9):2469-2476, 1971.

Two metabolites of (-)-delta-9-6a,10a-trans-tetrahydrocannabinol (delta-9THC), one of the psychotomimetic components of *Cannabis sativa* L, were found after this substance was injected intraperitoneally into rats. Extracts of rat urine, blood, bile and feces were analyzed by gas chromatography, mass spectrometry and mass fragmentography. In urine and feces unchanged delta-9THC was found. After glucuronidase treatment of feces, cannabinol and an equal amount of delta-9THC was also found. Dihydroxy-delta-9-TCH was identified in urine and feces. Diacetyl-delta-9THC was isolated from bile. 28 references. (Author abstract)

102734 Seiler, Nikolaus; Demisch, Lothar. Max-Planck-Institut für Hirnforschung, Arbeitsgruppe Neurochemie, Frankfurt/M-Niederrad, Germany Oxidative metabolism of mescaline in the central nervous system - II. Oxidative deamination of mescaline and 2,3,4-trimethoxy-beta-phenylethylamine by different mouse brain area in vitro. *Biochemical Pharmacology (Oxford)*. 20(9):2485-2493, 1971.

The oxidative deamination of mescaline (3,4,5-trimethoxy-beta-phenylethylamine) and 2,3,4-trimethoxy-beta-phenylethylamine was studied using mouse brain homogenates. The deamination of these phenylethylamines is slow. It is inhibited by inhibitors of MAO and not by inhibitors of DAO. High concentrations of mescaline and chlorpromazine inhibit the deamination of 2,3,4-trimethoxy-beta-phenylethylamine. Mescaline oxidation is depressed by its 2,3,4-isomer, but not

by chlorpromazine. The ratio of oxidation velocities of the 2 trimethoxy-beta-phenylethylamines is fairly constant with tissue from many brain structures, with the exception, that mescaline is relatively more actively deaminated by cerebellar homogenates than its 2,3,4-isomer. 28 references. (Author abstract)

102792 Matveev, V.F. Moskovskii meditsinskii stomatologicheskii institut, Moscow, USSR /On the influence of haloperidol on lysergic acid intoxication./ K voprosu o vliianii galoperidola na lizerginovuiu intoksikatsiiu. In: *Semenov, S., Voprosy kliniki i terapii psikhicheskikh zabolevanii*. Moscow, Ministerstvo Zdravookhraneniia SSSR, 1971.276 p. (p.265-268).

Morphological changes provoked in the rat brain during long-term introduction of lysergic acid diethylamide and haloperidol and provoked by administration of lysergic acid diethylamide alone are toxicorganic. During a course of administration of 10 to 15 days, haloperidol preserved neurons of the brain from the toxic effects of lysergic acid diethylamide. With longer, combined administration of lysergic acid diethylamide and haloperidol, the positive influence of haloperidol ceased, and serious dystrophic changes similar to those produced during long-term administration of lysergic acid diethylamide alone were manifested. Lysergic acid intoxication progressed against a background of expressed vascular disorders in intracellular hypoxia.

102805 Rogers, C.G. Food and Drug Research Laboratories, Department of National Health and Welfare, Ottawa, Canada Fatty acids of liver mitochondrial and microsomal lipids in the rat exposed to phenothiazine derivatives. *Biochemical Pharmacology (Oxford)*. 20(9):2518-2522, 1971.

Gas - liquid chromatography was used to determine the effect of chlorpromazine (CPZ) and prochlorperazine (PCP), 2 of the major tranquilizers, in vivo on the proportions of fatty acids in the lipids of rat liver mitochondrial and microsomal fractions and on the fatty acids of phosphatidylcholine and phosphatidylethanolamine of the mitochondrial fraction. The relative proportions of these acids of the liver mitochondrial and microsomal fractions from control and CPZ or PCP-treated rats were compared at 4 and 24 hr after drug injection. Results indicate that variations in the fatty acid composition of membrane phospholipids may af-

fect the properties of membranes. The question remains, however, whether or not the differences in fatty acid composition are related to changes in the properties of membranes. The significance of this question gains emphasis from the observation that the level of protein rat liver mitochondria, expressed on a dry weight basis, appeared not to be affected by intraperitoneal administration of CPZ or PCP. It is possible, therefore, that active involvement of phenothiazine derivatives at the level of the cell membrane might affect a conformational change in a membrane protein, the receptor, which then could initiate further events involving the lipids. 15 references.

**102806** Mussini E.; Marcucci, F.; Fanelli, R.; Garattini, S. Istituto di Ricerche Farmacologiche, Mario 'Negri', Via Eritrea 62, 20157 Milan, Italy Metabolism of diazepam and its metabolites by guinea pig liver microsomes. *Biochemical Pharmacology (Oxford)*. 20(9):2529-2531, 1971.

Metabolism of diazepam and its metabolites by guinea pig liver microsomes was investigated in vitro and compared with results obtained by other in vivo studies. The findings obtained for diazepam and N-demethyldiazepam are consistent with the in vivo studies showing that no C3-hydroxylated metabolites accumulate in blood brain and adipose tissue. It is noted that diazepam is metabolized by guinea pigs both in vitro and in vivo in a different manner than by rats or mice. As far as the in vitro metabolism is concerned, N-demethyldiazepam is slightly hydroxylated by rats and mice but not by guinea pigs, while N-methyloxazepam is demethylated by mice and guinea pigs but not by rats. Oxazepam is not further metabolized in vitro by the liver microsomes of the 3 animal species considered. 5 references.

**103311** Langslet, Asbjorn; Ryg, Morten. Institute of Pharmacology, University of Oslo, Oslo, Norway Effects of chlorpromazine and propranolol on left ventricular systolic pressure, ECG, and potassium ion efflux in the isolated perfused rat heart. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(5-6):533-541, 1971.

Results of a study of the effects of chlorpromazine and propranolol on left ventricular systolic pressure, ECG, and potassium ion efflux in the isolated perfused rat heart are presented. Rat hearts perfused with a perfusate from which potassium ion had been omitted and replaced by

rubidium ion had a spontaneous rate of contraction which was about 5% slower than that of the hearts perfused with fluid containing potassium ion, while the electrically driven hearts had a contractile force which was about 10% lower. Isoprenaline and glucagon caused a maximal increase in contractile force of about 60 and 50% respectively, which is equal to the increase obtained with a perfusate containing potassium ion. Results of varying concentrations of chlorpromazine, d,l-propranolol, and d-propranolol are given as they affected heart rate, impulse conduction velocity, and left ventricular systolic pressure. It is suggested that the observed effects can be explained as secondary to drug induced changes in the cell membrane. 21 references. (Author abstract modified)

**103312** Nordgren, Lars. Departments of Histology, Pharmacology and Psychiatry II, University of Lund, Lund, Sweden Effect of chlorpromazine, desmethylinipramine and lithium on dopamine uptake in the rat pancreas. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(5-6):542-544, 1971.

A brief summary of the effect of chlorpromazine, desmethylinipramine, and lithium on the dopamine uptake in the rat pancreas is presented. The purpose was to extend knowledge concerning possible interference of psychotropic drugs with the catecholamine uptake in nonneuronal tissues. Despite the fact that desmethylinipramine has been shown to be a more potent inhibitor of such uptake than chlorpromazine, no difference in the uptake blocking efficiency could be demonstrated. It is concluded that further analyses must be made to determine whether or not this finding reflects a difference in the uptake mechanism of adrenergic nerves and pancreatic cells. 6 references.

**103313** Persson, Torgny; Waldeck, Bertil. Pharmacology Department, University of Goteborg, Goteborg, Sweden Changes in the formation of 3H-catecholamines from 3H-DOPA and 3H-tyrosine induced by unlabelled DOPA. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(5-6):525-532, 1971.

Changes in the formation of 3H-catecholamines from 3H-DOPA and 3H-tyrosine induced by administration of unlabelled DOPA were experimentally studied in mice. Various doses of L-DOPA were given intravenously to mice together with 3H-L-DOPA or 3H-tyrosine. Two hours later the animals were killed. The 3H-noradrenaline (NA)

and 3H-dopamine (DA) in the caudate nucleus, the remainder of the brain and the heart were determined. In some experiments only unlabelled L-DOPA was given and NA and DA were determined fluorimetrically. With doses of DOPA 10 and 100mg/kg, the 3H-NA but not the 3H-DA formed from 3H-DOPA in the brain decreased, indicating a saturation of the DA beta-hydroxylase. In the heart a similar decrease was observed with a 10 times lower dose. In the caudate nucleus an increased synthesis of 3H-DA from 3H-DOPA was observed following the administration of 100mg/kg DOPA. The formation of 3H-NA both from 3H-tyrosine and from 3H-DOPA was influenced in a similar way by DOPA. There were no marked changes in the levels of unlabelled amines under the present experimental conditions. 15 references. (Author abstract modified)

**103648** Yarbrough, G.G.; Buxbaum, D.M.; Sanders-Bush, E. Dept. of Pharmacology, Vanderbilt Univ. School of Medicine, Nashville, Tennessee 37203 Increased serotonin turnover in the acutely morphine treated rat. *Life Sciences*. 10(17):977-983, 1971.

Acute administration of morphine in the rat caused an increase in brain 5-hydroxyindole acetic acid (5-HIAA) levels with no alteration of brain serotonin (5-HT) levels. After probenecid, 5-HIAA levels increased to a greater extent in morphine treated rats than in saline control animals. Furthermore, morphine caused an increase in the rate of rise of brain 5-HT levels following pargyline administration. The calculated turnover rate in saline rats was 1.42 nmol/gm/hr as compared with 1.75 nmol/gm/hr in morphine treated animals. It is concluded that a single injection of morphine results in a small but significant increase in brain 5-HT turnover in the rat. 21 references. (Author abstract modified)

**103649** Schallek, W.; Thomas, J. Department of Pharmacology, Research Division, Hoffman-La Roche, Inc., Nutley, New Jersey 07110 Effects of benzodiazepines on spontaneous electrical activity of subcortical areas in brain of cat. *Archives internationales de Pharmacodynamie et de Therapie (Gent)*. 192(2):321-337, 1971.

The actions of chlordiazepoxide hydrochloride and diazepam were tested on the spontaneous electrical activity of 7 subcortical areas in the brain of the immobilized cat. The effects of these drugs were compared with those of chlor-

promazine and pentobarbital. Each drug was injected at 5, 10 and 20mg/kg i.v. The data were subjected to power spectrum analysis. Chlordinazepoxide hydrochloride had its greatest effect on the hippocampus, increasing relative power at 10 to 20 Hz. Chlorpromazine increased relative power at 1 to 2 Hz in the amygdala, hypothalamus and septum. Pentobarbital had more effect than the other drugs on the reticular formation, decreasing relative power from 15 to 16 and 21 to 29 Hz. Diazepam had little effect in these experiments. 26 references. (Journal abstract)

**103650** Consolo, S.; Ladinsky, H. Istituto de Ricerche Farmacologiche Mario Negri, Via Eritrea 62, 20157 Milan, Italy Delayed oxypenylbutazone absorption by some tricyclic compounds in the rat. *Archives internationales de Pharmacodynamie et de Therapie (Gent)*. 192(2):265-270, 1971.

Plasma oxyphenylbutazone (OPB) levels were determined at various times up to 480 min after the oral administration of OPB to control rats and rats treated with some tricyclic compounds. Peak plasma OPB levels were reached at about 180 min in controls. Pretreatment with chlorpromazine, protriptyline, amitriptyline and GP 45437 (5-dimethylaminopropylidene-methyl-dibenzo-cycloheptene) delayed the time to peak absorption of OPB to 240 min or later. Atropine did not alter the time to peak absorption but significantly lowered plasma OPB levels up to 120 min and inhibited gastric emptying. Opipramol was the only ineffective tricyclic compound of those tested. About 77% of the oral dose of OPB disappeared from the stomachs of control rats in 240 min and 97% in 480 min. After 240 min, about 50% of the oral dose of OPB remained in the stomachs of rats pretreated with amitriptyline and GP 45437 and almost 100% of the OPB was found in the stomachs of chlorpromazine and protriptyline treated rats at this time. Atropine also inhibited gastric emptying of OPB while opipramol was inactive. 5 references. (Journal abstract)

**103651** van der Kleijn, E.; Wijffels, C.C.G. Sint Radboud Hospital Pharmacy, University of Nijmegen, The Netherlands Whole-body and regional brain distribution of diazepam in newborn rhesus monkeys. *Archives internationales de Pharmacodynamie et de Therapie (Gent)*. 192(2):255-264, 1971.

The distribution pattern of diazepam in newborn monkeys shows many similarities with previously described patterns in mice; however, the regional distribution in the brain is far more detailed. At the 10 min. period after intravenous injection, high concentrations of the drug are present in the gray cortical structures of cerebrum, cerebellum, brainstem and spinal cord as well as in the thin myelinated structures in the brainstem and peripheral nerves. At later periods retention in the white matter of the fiber tracts and peripheral nerves and in some nuclei of the brainstem and the cerebellum can be observed. The distribution may be correlated with the observed and reported paralysis, loss of consciousness and inhibition of voluntary muscle movement control. 19 references. (Journal abstract)

**103653 Cannizzaro, G.; La Grutta, V.; Palazzoadriano, M.** Institute of Pharmacology, University of Palermo, Palermo, Italy Analysis of the effects of arginine N-acetylasparaginate on the central nervous system. *Archives internationales de Pharmacodynamie et de Therapie (Gent)*. 192(2):220-230, 1971.

Studies were done with cats and rabbits to analyze the effects of arginine N-acetylasparaginate on the central nervous system. The simultaneous administration in the carotid of N-acetylasparagine and arginine in equimolecular quantities equivalent to 150mg/kg of arginine N-acetylasparaginate causes a desynchronization pattern and a moderate increase of acetylcholine and glutamine both in the cerebral cortex and in the caudate nucleus; these effects may be superimposed on those produced by arginine N-acetylasparaginate, but are notably shorter. Pretreatment with arginine N-acetylasparaginate reduces some effects of thiopental. That arginine N-acetylasparaginate raises the amygdaloid excitability threshold is demonstrated by the increase in time required to produce the phenomenon of false rage in cats with chronically implanted electrodes. Treatment with arginine N-acetylasparaginate reduces the mean amplitude of the potentials evoked in the auditory area of the cerebral cortex; monosynaptic excitatory and inhibitory potentials, studied at the level of the hairy cell of Corti's organ, are not modified, even after large doses of the drug. 18 references. (Journal abstract modified)

**103654 Eidelberg, E.; Bond, M.L.; Kelter, A.** Division of Neurobiology, Barrow Neurological Institute, St. Joseph's Hospital and Medical Center, Phoenix, Arizona Effects of alcohol on cerebellar and vestibular neurones. *Archives internationales de Pharmacodynamie et de Therapie (Gent)*. 192(2):213-219, 1971.

Single unit recordings were made from the midline cerebellar cortex and from the lateral vestibular nuclei (Deiters) in decerebrate, unanesthetized, cats, and the effects of intravenous doses of dilute ethyl alcohol upon the firing rate and pattern of discharge of these neurones were studied. Ethanol depressed the discharge of cells identified functionally as Purkinje elements and tended to accelerate the discharge of cerebellar interneurons. Most of the vestibular units were depressed by ethanol, regardless of whether the cerebellum was intact or had been removed previously. It is concluded that the clinical phenomena of alcoholic intoxication relating to the cerebellovestibular system (ataxia, nystagmus) are probably due to a direct action of alcohol upon cellular elements in this system. It is possible that the effects of alcohol upon Purkinje cells may be partly direct and partly mediated through the activation of intracerebellar inhibitory interneurons. 18 references. (Journal abstract modified)

**103655 Huidobro, F.** Department of Pharmacology, Catholic University of Chile, Casilla 114-D, Santiago, Chile Action of picric acid on the effects of some drugs acting on the central nervous system, with special reference to opioids. *Archives internationales de Pharmacodynamie et de Therapie (Gent)*. 192(2):362-364, 1971.

The action of picric acid on the effects of some drugs acting on the central nervous system was investigated, with special reference to opioids. Picric acid in doses of 50mg/kg i.p., injected in mice 30 minutes before morphine, meperidine, methadone, pentazocine, etonitazene, aminopyrine, sodium salicylate and pentobarbital potentiated the analgesia and the sleeping time induced by the drugs. Picric acid did not modify the effects of pentylene tetrazol and amphetamine. 4 references. (Journal abstract modified)

**103948 Kvetnansky, Richard; Silbergeld Sam; Weise, Virginia K.; Kopin, Irwin J.** Institute of Experimental Endocrinology, Slovak Academy of Sciences, Bratislava, Czechoslovakia Effects of

restraint on rat adrenomedullary response to 2-deoxy-D-glucose. *Psychopharmacologia (Berlin)*. 20(1):22-31, 1971.

The effects of prior immobilization on rat adrenomedullary response to 2-deoxy-D-glucose (2DG) were examined. Male rats immobilized for 2.5 hours daily for 7 or 40 consecutive days were compared to control animals. Urines were collected for 2 consecutive 24 hour intervals, starting with the beginning of the last 2.5 hour restraint interval. Four days after the last restraint interval, all rats received a single injection of 2-deoxy-D-glucose (2DG) (500mg/kg). Immediately afterwards, urine specimens were collected for another 24 hour period. The 24 hour urinary epinephrine (E) of the initial period was markedly increased after 7 immobilizations and 40 immobilizations. The increase in E was significant during the second day of collection after 7 immobilizations, but not after 40 immobilizations. The urinary E during the period after 2DG administration was increased for all immobilized rats; the E levels after 40 immobilizations were greater than after 7 immobilizations. For evaluating adrenal changes, animals were immobilized daily and given 2DG daily. Six hours after one immobilization followed by 2DG there was a marked lowering of adrenal epinephrine and a small increase in adrenal tyrosine hydroxylase (TH) and phenylethanolamine-N-methyl transferase. Those animals immobilized and treated with 2DG daily for one week showed marked lowering of adrenal E and an increase in adrenal TH and dopamine- $\beta$ -hydroxylase. 13 references. (Author abstract modified)

104007 Iversen, L.L.; Johnston, G.A.R. Department of Pharmacology, University of Cambridge, Cambridge, England GABA uptake in rat central nervous system: comparison of uptake in slices and homogenates and the effects of some inhibitors. *Journal of Neurochemistry*. 18(10):1939-1950, 1971.

Fifty two substances were tested as inhibitors of the uptake of 03H0GABA in slices of rat cerebral cortex. Among GABA analogues tested, only the 2-fluoro, 3-hydroxy and 2-amino compounds had affinities for the uptake mechanism comparable to that of GABA. 03H0GABA uptake was also potently inhibited by p-chloromecuphenylsulphonate, N-ethylmaleimide, chlorpromazine and haloperidol. No inhibitors were found to act in a competitive manner with respect to GABA. 03H0GABA uptake was also

examined in homogenates of cerebral cortex and other regions of CNS. There was a rapid uptake of 03H0GABA into particles when homogenate samples were incubated with the labelled amino acid; this uptake had similar kinetic properties and inhibitor sensitivity to that observed in slices of intact tissue. Density gradient centrifugation experiments indicated that the particles responsible for the uptake of 03H0GABA in homogenates were probably synaptosomes. Uptake of 03H0GABA also occurred in slices and homogenates of rat spinal cord, and evidence was obtained by the simultaneous labelling of homogenates with 014C0glycine and 03H0GABA that these 2 amino acids were taken up by different nerve terminals in this region. 18 references. (Journal abstract)

104009 Hahn, D.L.; Goldstein, A. Department of Pharmacology, Stanford University School of Medicine, Stanford, California 94305 Amounts and turnover rates of brain proteins in morphine-tolerant mice. *Journal of Neurochemistry*. 18(10):1887-1893, 1971.

Amounts and turnover rates of brain proteins are reported in morphine tolerant mice. Mice were injected intracerebrally with radioactive leucine 30 min before decapitation. A double label technique was used; 03H0leucine in control, untreated mice and 014C0leucine in morphine tolerant (dependent) mice. Proteins were extracted sequentially from mouse brain with aqueous buffer, Triton X-100, and sodium lauryl sulphate. Each extract was subjected to electrophoresis on discontinuous, porosity gradient acrylamide gels. When the protein patterns from untreated, acutely morphinized mice were compared with those from morphine tolerant (dependent) mice, no differences in the amounts of protein or of radioactivity in any of the 55 discrete bands were observed. 22 references. (Journal abstract modified)

104010 Spano, P.F.; Tagliamonte, A.; Tagliamonte, P.; Gessa, G.L. Institute of Pharmacology, University of Cagliari, 09100 Cagliari, Italy Stimulation of brain dopamine synthesis by gamma-hydroxybutyrate. *Journal of Neurochemistry*. 18(10):1831-1836, 1971.

Gamma-hydroxybutyrate administration produces a marked selective increase of brain dopamine in different animal species. Following gamma-hydroxybutyrate administration, dopamine accumulated in the basal ganglia of the rat and in

the caudate nucleus of the rabbit at a rate which greatly exceeded the normal synthesis rate of the amine in these species. Dopamine accumulation was prevented by alpha-methyltyrosine. These data indicate that gamma-hydroxybutyrate stimulates dopamine synthesis. In addition, gamma-hydroxybutyrate increased the homovanillic acid level in the rat basal ganglia to a maximum of about 300% of the normal level indicating that gamma-hydroxybutyrate inhibits neither monoamine oxidase nor catechol O-methyltransferase in vivo. The possible mechanisms of dopamine accumulation following gamma-hydroxybutyrate administration are discussed. 23 references. (Journal abstract)

**104011** Robertson, M.I.; Abbs, E.T. Medicinal Research Centre, Beecham Research Laboratories, Harlow, Essex, England Catecholamine depletion and adrenergic neurone blockade: studies with debrisoquine. *Journal of Neurochemistry*. 18(10):1999-2001, 1971.

The effect of the adrenergic neurone blocking agent, debrisoquine, on the subcellular distribution of noradrenaline in the cat spleen was investigated. It was found that debrisoquine released noradrenaline into the circulation before adrenergic neurone blockade was fully established, indicating that a depletion of the noradrenaline content of the high speed supernatant fraction of the cat spleen may be correlated with the adrenergic neurone blocking effect. 9 references.

**104139** Schildkraut, Joseph J.; Efron, Daniel H. Massachusetts Mental Health Center, 74 Fenwood Rd., Boston, Mass. 02115 The effects of delta(9)-tetrahydrocannabinol on the metabolism of norepinephrine in rat brain. *Psychopharmacologia (Berlin)*. 20(2):191-196, 1971.

The effects of delta(9)-tetrahydrocannabinol (delta(9)-THC) on the metabolism of norepinephrine in the rat brain was studied. Delta(9)-THC was administered to rats by intraperitoneal injection. This dose was found to cause an accelerated rate of disappearance of intracisternally administered norepinephrine-H3 from the brain and a small increase in the uptake of norepinephrine-H3 in the brain. In contrast to most stimulants, euphoricants, or antidepressants (cocaine or amphetamine, monoamine oxidase inhibitors and tricyclic antidepressants), delta(9)-THC appeared to cause no decrease in the

deamination of norepinephrine-H3 in brain. Levels of endogenous norepinephrine in brain tended to be slightly lower, whereas levels of endogenous serotonin were slightly higher in animals treated with delta(9)-THC than in matched control animals. Behavioral effects were observed and are described in the text. 12 references. (Author abstract modified)

**104140** Engel, J.; Hanson, L.C.F.; Roos, B.-E. Dept. of Pharmacology, Univ. of Goteborg, Goteborg, Sweden Effect of electroshock on 5-HT metabolism in rat brain. *Psychopharmacologia (Berlin)*. 20(2):197-200, 1971.

The effect of repeated electroshock treatment (EST) on the turnover of 5-hydroxytryptamine (5-HT) in the central nervous system (CNS) in rats was studied. Repeated EST on 3 consecutive days was administered to 72 rats. The last treatment was given immediately after an injection of a tryptophan hydroxylase inhibitor, H22/54. The animals were killed 3 hours later, 2 to 4 brain stems were pooled, analyzed for 5-HT and 5-hydroxyindoleacetic acid (5-HIAA) and the values compared with a group of animals receiving H22/54 only. A significant decrease in 5-HT was seen in the EST group indicating an increase in the release of 5-HT after the repeated treatment. When the level of 5-HIAA in the EST group was compared with the level in the group treated with H22/54 alone, the difference was slight. The small increase could be explained by the rather slow turnover rate of 5-HT in the CNS and thus of the synthesis of 5-HIAA. The possibility of an accelerated outflow of 5-HIAA from the CNS after EST should also be considered. 12 references. (Author abstract modified)

**104172** Corrodi, Hans; Masuoka, David T.; Clark, William G. AB Hassle, Fack, 402 20 Goteborg, Sweden Effect of 6-hydroxydopamine on rat heart noradrenaline. *European Journal of Pharmacology (An International Journal) (Amsterdam)*. 15(2):160-163, 1971.

The rapid release and prolonged decrease of noradrenaline in rat heart caused by 6-hydroxydopamine was studied. The site and manner of the noradrenaline - releasing and specific nerve degenerating action of 6-hydroxydopamine was investigated using desmethylimipramine, reserpine and inhibitors of catecholamine metabolism. 16 references. (Author abstract modified)

**104324** Satoh, T.; Moroi, K. Department of Pharmacology and Toxicology, Institute of Food Microbiology, Chiba University, Chiba, Japan Species and age differences in the activity of isocarboxazid hydrolysing enzyme. *Archives internationales de Pharmacodynamie et de Therapie (Gent)*. 192(1):128-134, 1971.

Species and age differences in the hydrolysing enzyme activity of isocarboxazid were studied. Guinea pig had significant higher activity in comparison with other animals, such as rabbit, rat and mouse. On the other hand, the liver and kidney of the male rat showed an age-dependent increase in the enzyme activity during the first 60 days after birth. 16 references. (Author abstract)

**104326** Abdallah, A.H. Human Health R and D Laboratories, The Dow Chemical Company, Zionsville, Indiana 46077 On the role of norepinephrine in the anorectic effect of d-amphetamine in mice. *Archives internationales de Pharmacodynamie et de Therapie (Gent)*. 192(1):72-77, 1971.

The interactions of alpha-methylmetatyrosine (alpha-Mmt), alpha-methyl tyrosine (alpha-MT) and pargyline with d-amphetamine on food intake in mice were examined. Results showed that alpha-Mmt (64mg/kg) failed to antagonize the anorectic activity of d-amphetamine. Also, alpha-MT elicited antiamphetamine activity in a dose which alone had no significant effect on food intake. Pargyline (32mg/kg) did not significantly enhance the anorectic activity of d-amphetamine. It is possible that pargyline has no effect on the uptake of norepinephrine in the central nervous system. This fact may explain the failure of pargyline to markedly potentiate the anorectic effect of amphetamine. 20 references. (Author abstract modified)

**104327** Goldenberg, M.M. Section of Pharmacology, Pharmacometrics Division, Research and Development Department, The Norwich Pharmacal Company, Norwich, New York Differential antagonism between DMAE (A hemicholinium derivative) and atropine on contractile responses of the rat ileum. *Archives internationales de Pharmacodynamie et de Therapie (Gent)*. 192(1):5-15, 1971.

A study concerned with the effect of DMAE (alpha, alpha'-bis (dimethylammoniumacetaldehyde diethylacetal)-p,p'-diacetyl biphenyl bromide), on the biphasic contractile response of the rat ileum to nicotine

and to acetylcholine is reported. The primary spike-like contraction of the rat ileum in response to nicotine was blocked by atropine and was considered to be cholinergically mediated. The slow secondary portion of the biphasic contraction resisted atropine blockade and seemed not to be cholinergically mediated. DMAE and cocaine antagonized equally both phases of the contractile response to nicotine. Cocaine, but not DMAE, exerted some anticholinergic activity. Morphine, strychnine, and hexamethonium caused greater inhibition of the atropine sensitive than of the atropine resistant contractile response to nicotine. Hexamethonium and atropine in combination nearly abolished the resistant contractile component. The results of the study suggest that the action of DMAE in the rat ileum may be exerted on neuronal structures mediating both cholinergic and noncholinergic responses. The sites of nicotine action are discussed. 13 references. (Author abstract)

**104328** Huidobro, F.; Tamayo, L.; Contreras, E. Department of Pharmacology, Catholic University of Chile, Santiago, Chile Effects of methadone on the action of catecholamines in isolated preparations. *Archives internationales de Pharmacodynamie et de Therapie (Gent)*. 192(1):168-178, 1971.

A study was done to verify whether methadone increases the actions of catecholamines in vitro, and to determine its mechanism of action. Catecholamines and methadone were assayed in several isolated preparations from guinea pigs, rats and rabbits, under the effect of cocaine, monoamine oxidase or catechol-O-methyl transferase inhibitors. When catecholamines induce relaxation, methadone generally antagonizes this effect; when they induce contraction, small doses of methadone increase the contractile responses to the amines, but larger doses have an antagonistic effect. Pargyline and pyrogallol neither modify the effect of methadone on the relaxant action of catecholamines, nor the contractile actions of both amines. The action of methadone on the relaxant effect of catecholamines is unaffected by cocaine, but this last drug eliminates the potentiation induced by methadone. Methadone either depresses or does not change the acetylcholine and barium action. The mechanisms of the methadone potentiation on catecholamine responses are discussed. 21 references. (Author abstract modified)

**104329** Davis, W. Marvin; King, William T.; Babbini, M. Department of Pharmacology, School of Pharmacy, University of Mississippi, University, Mississippi 38677 Physostigmine and pentobarbital: biphasic interaction in mice. *Archives Internationales de Pharmacodynamie et de Therapie (Gent)*. 192(1):152-159, 1971.

The influence of various dosages of physostigmine administered prior to pentobarbital treatment was observed in albino mice. Measurements of the duration of action after hypnotic dosages and of the incidence of loss of righting reflex at partially effective dosages of pentobarbital were in accord in showing that lower dosages of physostigmine caused antagonism, while higher ones caused synergism of responses to the barbiturate. Atropine sulfate was able to block both physostigmine effects. Atropine methylnitrate also blocked the antagonism, but was clearly less effective in altering the synergism than was the sulfate. 16 references. (Author abstract)

**104375** Roldan, E.; Radil-Weiss, T.; Chocholova, L. Institute of Physiology, Czechoslovak Academy of Sciences, Prague 4, Czechoslovakia The influence of barbiturates on paroxysmal EEG activity induced by hippocampal and/or thalamic cobalt foci. *Psychopharmacologia (Berlin)*. 19(3):273-281, 1971.

Epileptiform 7-9/sec spike and wave and polyspike EEG discharges were induced in male albino rats by chronic cobalt gelatine implantation into the dorsal hippocampus and/or nonspecific thalamus. Low doses of allobarbital and thiopental (10-20mg/kg) markedly reduced the incidence of the epileptiform manifestations simultaneously with the appearance of slow wave EEG activity. After desynchronization by reticular or sensory stimulation, the paroxysmal EEG patterns often reappeared. The presence of sleep cycles with alternation of slow wave and paradoxical sleep phases made it difficult to measure the duration of the effect. Low doses of barbiturates seemed to influence the 7-9/sec spike and wave and polyspike discharges mainly indirectly by depressing the level of vigilance. High doses (40-50mg/kg) of the barbiturates caused an almost complete disappearance of the epileptiform manifestations lasting for several hours. The frequency of spike and wave complexes or spikes within the epileptiform episodes (when present) slightly increased after barbiturate administration. In the first 5 min after the injection of low doses of barbiturate a transitory facilitation of the in-

cidence of the paroxysmal discharge was sometimes observed together with the disappearance of spontaneous movements. During the second half of anesthesia after high doses reticular stimulation in some cases triggered polyspike or spike and wave discharges lasting for minutes. 11 references. (Journal abstract)

**104376** Roldan, E.; Radil-Weiss, T.; Chocholova, L. Department of Physiology, Faculty of Medicine, University of Mexico, Mexico Influence of chlordiazepoxide on paroxysmal EEG activity induced by hippocampal and/or thalamic cobalt foci. *Psychopharmacologia (Berlin)*. 19(3):266-272, 1971.

The influence of chlordiazepoxide (Librium) on the paroxysmal 7-9/sec spike and wave and polyspike EEG discharges induced by chronic cobalt gelatine implantation into the dorsal hippocampus and/or nonspecific thalamus has been studied in rats with electrodes in the frontal cortices, dorsal hippocampi and the mesencephalic reticular formation. Both low (1.5-9mg/kg i.p.) and high (9-15mg/kg i.p.) doses of chlordiazepoxide reduced the incidence of paroxysmal EEG manifestations and shortened their duration (when present). Both effects were more pronounced after higher doses. The frequency of spike wave complexes or spikes within the paroxysmal EEG discharges did not change systematically after chlordiazepoxide. The influence of the drug on the paroxysmal discharges is independent of whether the EEG after chlordiazepoxide is desynchronized or synchronized. In the latter case desynchronization of the EEG by reticular stimulation does not facilitate the occurrence of paroxysmal EEG discharges. 12 references. (Journal abstract)

**104434** Kleinrok, Z.; Zebrowska-Lupina, I. Dept. of Pharmacology, School of Medicine, Jaczewskiego 8, Lublin, Poland Central action of phentolamine administered intraventricularly in the rat. *Psychopharmacologia (Berlin)*. 20(4):348-354, 1971.

The action of phentolamine administered iv into the lateral brain ventricle of unanesthetized rats on the exploratory locomotor activity in normal and noradrenaline (NA) or amphetamine treated animals was studied. The level of NA and 5-hydroxytryptamine in whole rat brain was also estimated. Phentolamine injected in rats decreased their locomotor activity and antagonized the excitatory effect of intraventricularly injected

noradrenaline, or amphetamine injected sc. Phenolamine did not influence the level of noradrenaline and 5-hydroxytryptamine in the rat brain. The mechanism of observed action of phenolamine is discussed. 17 references. (Author abstract modified)

**104472** Matsumoto, Charles; Griffin, William. The Lilly Research Laboratories, Indianapolis, Indiana 46206 Antagonism of d-amphetamine-induced hyperthermia in rats by pimozide. *Journal of Pharmacy and Pharmacology (London)*. 23(9):710, 1971.

00NCMHI, XJournal Article, XAnimal, XResearch Study The antagonism of d-amphetamine induced hyperthermia by pimozide was measured in male Wistar rats approximately 175 g, housed 5 per cage. After rectal temperatures were measured with a thermister probe (TRI-R), pimozide (10mg/kg k.p, salt) was administered; 1 h later, d-amphetamine (5.52mg/kg salt) was administered. Rectal temperatures were read at 30, 60, 120, 180, and 240 min after amphetamine. Amphetamine increased body temperature from 36.8deg by approximately 1 deg. At 3 h the temperature had fallen to 37.5deg and was normal at 4 h and both saline and pimozide did not alter body temperature. However, pimozide effectively antagonized the hyperthermia due to amphetamine. The antagonism of amphetamine induced hyperthermia by pimozide would be consistent with a central site of amphetamine's action and may involve a dopaminergic system. 6 references.

**104535** Bhagat, B.; Rana, M.W. Department of Physiology, Saint Louis University School of Medicine, Saint Louis, Missouri Effect of chronic administration of nicotine on the concentrations of adrenal enzymes involved in the synthesis and metabolism of adrenaline. *British Journal of Pharmacology (London)*. 43(1):250-251, 1971.

A study was undertaken to determine whether chronic administration of nicotine can lead to induction of adrenal tyrosine hydroxylase and also the induction of adrenal enzyme phenyl-ethanolamine N-methyl transferase (PNMT). Results indicate that chronic administration of nicotine caused an increase in tyrosine hydroxylase and catecholamine concentrations in rat adrenals, but failed to affect adrenal monoamine oxidase, catechol-O-methyl transferase or PNMT activities. 11 references. (Author abstract modified)

**104536** Blum, K.; Geller, I.; Wallace, J.E. Department of Experimental Pharmacology, Southwest Foundation for Research and Education, San Antonio, Texas 78228 Interaction effects of ethanol and pyrazole in laboratory rodents. *British Journal of Pharmacology (London)*. 43(1):67-73, 1971.

Interactions of pyrazole and ethanol were studied for sleeping time in mice, rotor rod balance in rats, and lever pressing behavior of rats. Equimolar concentrations of pyrazole and 3-methylpyrazole were compared for effects on enhancement of ethanol's activity on rotor rod holding time of rats. Minimally effective doses of pyrazole, the liver alcohol dehydrogenase (LADH) inhibitor, and 3-methylpyrazole, a noninhibitor of LADH, when administered before ethanol, resulted in an increased behavioral depression. These interaction effects are probably not caused by inhibition of LADH, but rather by an increase in the direct depressant action of either one or both of the compounds. 11 references. (Author abstract modified)

**104537** Jhamandas, K.; Phillis, J.W.; Pinsky, C. Department of Pharmacology, Queen's University, Kingston, Ontario, Canada Effects of narcotic analgesics and antagonists on the in vivo release of acetylcholine from the cerebral cortex of the cat. *British Journal of Pharmacology (London)*. 43(1):53-66, 1971.

In cats under light allobarbitone anesthesia, the effects of intravenous injections of narcotic and nonnarcotic analgesics, of a general depressant, and of narcotic antagonists were investigated on the spontaneous release of acetylcholine (ACh) from the surface of the sensorimotor cortex. The narcotic analgesics morphine, meperidine, methadone, and codeine greatly reduced ACh release. The nonnarcotic analgesics pentazocine and propoxyphene as well as the depressant chlorpromazine also greatly reduced ACh release. Two of the 3 narcotic antagonists examined, levallorphan and nalorphine had the property of reducing ACh release. They were thus partial agonists. The third, naloxone, was a specific narcotic antagonist and did not reduce the ACh release in any dose examined. In a dose of 1.0mg/kg it actually produced a small increase in ACh release. Naloxone restored the reduction in ACh release produced by the narcotic analgesics and by the partial agonist levallorphan. It partially restored the reduction produced by the nonnar-

cotic analgesics and by nalorphine, but had no effect on the reduction produced by chlorpromazine. The relevance of these results with regard to analgesia and to the narcotic abstinence syndrome is discussed. 34 references. (Author abstract modified)

**104538** Curzon, G.; Green, A.R. Department of Chemical Pathology, Institute of Neurology, Queen Square, London, WC1, England Regional and sub-cellular changes in the concentration of 5-hydroxytryptamine and 5-hydroxyindoleacetic acid in the rat brain caused by hydrocortisone, DL-alpha-methyltryptophan, l-kynurenine and immobilization. *British Journal of Pharmacology (London)*. 43(1):39-52, 1971.

Intraperitoneal injection of hydrocortisone, DL-alpha-methyltryptophan, or L-kynurenine decreased the concentrations of 5-hydroxytryptamine (5-HT) and 5-hydroxyindoleacetic acid (5-HIAA) in different regions of rat brain. Hydrocortisone caused similar decreases, suggesting decreased 5-HT synthesis. Kynurenine caused larger decreases in the concentration of 5-HT than in the concentration of 5-HIAA. Immobilization of rats for 5 hr decreased the concentration of 5-HT and increased that of 5-HIAA in most brain regions. The differences between the percentage decreases in the concentration of 5-HIAA after hydrocortisone and the percentage increases after immobilization were very similar in all regions except the hypothalamus. This is consistent with immobilization stress increasing the firing rate of 5-hydroxytryptaminergic neurones similarly in different regions. During the first 3 hr of immobilization, the concentrations of 5-HIAA in the hypothalamus and in the rest of the brain increased in parallel. Between 3 and 5 hr, 5-HIAA returned to control concentrations in the hypothalamus while continuing to rise in the rest of the brain. Relative changes in the concentration of 5-HT in particulate and supernatant fractions after the various treatments were comparable except 2 hr after kynurenine injection when the concentration of 5-HT fell in the particulate but not in the supernatant fraction. The concentration of 5-HT did fall in the latter, thought more slowly than in the former fraction, suggesting a concentration of amine synthesizing organelles in particulate material. 25 references. (Author abstract modified)

**104574** Holtzman, Stephen G.; Jewett, Robert E. Department of Pharmacology, Emory University, Atlanta, Georgia 30322 The role of brain norepinephrine in the anorexic effects of dextroamphetamine and monoamine oxidase inhibitors in the rat. *Psychopharmacologia (Berlin)*. 22(2):151-161, 1971.

The effects of d-amphetamine on food and water intake and brain monoamine concentrations in rats that had been deprived of food and water for 24 h were compared with those of 2 monoamine oxidase (MAO) inhibitors: tranylcypromine which has prominent amphetamine-like activity; and, pargyline which does not. All drugs produced dose related depressions of food and water intake. The anorexic effects of the MAO inhibitors were correlated, over a 16 fold dose range, with elevated levels of norepinephrine, dopamine and serotonin. The anorexic effect of d-amphetamine was blocked by alpha-methyltyrosine, an inhibitor of catecholamine synthesis. Alpha-Methyltyrosine failed to block the depression of food and water intake caused by the MAO inhibitors, although the rise in catecholamine levels was prevented. It was concluded that the mechanisms by which d-amphetamine produces anorexia may differ from those of the MAO inhibitors. Central adrenergic mediation appears to play a role in the anorexic activity of d-amphetamine, but may not be essential for the anorexic effect of tranylcypromine and pargyline. 25 references. (Author abstract)

**104575** Maj, J.; Grabowska, M.; Mogilnicka, E. Institute of Pharmacology, Polish Academy of Sciences, 52, Ojcowska Street, Krakow, Poland The effect of L-DOPA on brain catecholamines and motility in rats. *Psychopharmacologia (Berlin)*. 22(2):162-171, 1971.

A study examined the effect of L-DOPA on brain catecholamines and motility in rats. Normal rats and those pretreated with reserpine or alpha-methyltyrosine were given L-DOPA alone or with extracerebral decarboxylase inhibitor (Ro 4-4602). Motility was measured at 2 different time intervals and the brain levels of noradrenaline (NA) and dopamine (DA) were subsequently determined. No simple correlation between the DA or NA level and motility was observed. The L-DOPA induced increase in motility appeared only in rats in which: 1) the DA levels were markedly increased; 2) a sufficient amount of NA was present. Increasing the dose of L-DOPA did not

cause an increase in the NA levels. The present results are in agreement with other published data and suggest that under the conditions studied NA can be displaced by DA formed from L-DOPA and that both amines (DA and NA) are of importance in L-DOPA induced increase of motility. 51 references. (Author abstract modified)

**104765** Nakazawa, K.; Costa, E. Laboratory of Preclinical Pharmacology, National Institute of Mental Health, Saint Elizabeth's Hospital, Washington D.C. 20032 Metabolism of delta(9)-tetrahydrocannabinol by lung and liver homogenates of rats treated with methylcholanthrene. *Nature* (London). 234(5323):48-49, 1971.

Because psychoactive cannabinoids are effective in cannabis smoking, the transformation of delta(9)-tetrahydrocannabinol (delta(9)-THC) by the postmitochondrial supernatant of the rat lung was studied. Also a comparison was made of chromatographic properties of the delta(9)-THC metabolites produced in vitro by the postmitochondrial supernatant of liver and lung from untreated rats and rats treated with 3-methylcholanthrene. Results showed that delta(9)-THC is enzymatically converted by the rat lung; however, the pathways of delta(9)-THC metabolism in lung homogenates probably differ from those detected in the liver. Treatment with 3-methylcholanthrene induced the enzyme system responsible for the metabolism of delta(9)-THC in the lung but had no effect on that in the liver. It is concluded that the lung plays a critical role in the biotransformation of delta(9)-THC. 12 references.

**104790** Tonge, Sally R.; Greengrass, Pamela M. School of Pharmacy, Liverpool Polytechnic, Byrom St., Liverpool C3, England The acute effects of oestrogen and progesterone on the monoamine levels of the brain of ovariectomised rats. *Psychopharmacologia* (Berlin). 21(4):374-381, 1971.

Cerebral concentrations of 5-hydroxytryptamine, noradrenaline, dopamine, tryptophan and tyrosine in ovariectomized rats were measured following the acute administration of ethinyloestradiol and progesterone, alone and in combination. As a preliminary to the study of discrete areas, the brains were divided into 3 portions: the cortex, the midbrain and the hindbrain. Both ethinyloestradiol and progesterone elevated noradrenaline and dopamine concentrations in the

cortex, but decreased midbrain concentrations. Progesterone significantly increased 5-hydroxytryptamine concentrations in the mid and hindbrain; there was also some evidence of an increase in the cortex. The relevance of these findings to rat sexual behavior, and the possibility that estrogen and progesterone levels may be implicated in some affective disorders in humans are discussed. 28 references. (Author abstract modified)

**104804** Sethy, Vimala H.; Naik, S.R.; Sheth, U.K. Department of Pharmacology, School of Medicine, State University of New York, Buffalo, N.Y. 14214 The effect of drugs influencing amine synthesis on the analgesic action of tremorine. *Psychopharmacologia* (Berlin). 19(1):73-80, 1971.

The effect of reserpine, alpha-methyl-dl-m-tyrosine (alpha-MT), diethylthiocarbamate (DDC) and p-chlorophenylalanine (p-Clphe) pretreatment on tremorine induced analgesia has been studied in mice by various methods. The ED50 of tremorine was significantly increased by all the methods when the animals were pretreated with reserpine, DDC and p-Clphe. Alpha-MT had no significant effect on tremorine induced analgesia. The results are discussed with respect to the role of brain amines in the analgesic action of tremorine. 37 references. (Author abstract)

**104826** McMillan, D.E. Dept. of Pharmacology, School of Medicine, Univ. of North Carolina, Chapel Hill, N.C. 27514 Interactions between naloxone and chlorpromazine on behavior under schedule control. *Psychopharmacologia* (Berlin). 19(2):128-133, 1971.

A multiple fixed ratio, fixed interval schedule of food presentation was used to study interactions between naloxone and chlorpromazine in the pigeon. Inactive doses of both drugs could combine to decrease the rate of responding under both schedule components. Inactive doses of naloxone could enhance the rate decreasing effects of chlorpromazine and inactive doses of chlorpromazine could enhance the rate decreasing effects of naloxone. When both drugs decreased the rate, the combined effects of the drugs was greater than the sum of the rate decreasing effects of the individual drugs. These data suggest that the rate decreasing effects of naloxone and chlorpromazine are synergistic. 13 references. (Author abstract)

**104964 Helfer, H.; Jaques, R.** Biological Research Laboratories, Pharmaceutical Division, Ciba-Geigy Ltd., Basel, Switzerland The influence of some selected psychoactive drugs on the spontaneous contractile activity of the isolated murine portal vein. *Pharmacology*. 6(1):22-28, 1971.

The influence of some selected psychoactive drugs on the spontaneous contractile activity of the isolated murine portal vein was investigated. Using the isolated spontaneously pulsating portal vein of the mouse, it was shown that benzocytamine differs from chlorpromazine and imipramine with regard to its effect on pulsatile frequency and excursions (amplitude). 3 references. (Author abstract modified)

**105010 Weller, C.P.; Sulman, F.G.** Dept. of Applied Pharmacology, School of Pharmacy, Hebrew Univ., P.O.B.517, Jerusalem, Israel Activity of major analgesics on motor nociceptive responses in decerebrate mice. *Psychopharmacologia (Berlin)*. 20(3):299-306, 1971.

Three major analgesics (morphine, pentazocine, methotrimeprazine) were tested on intact and decerebrate mice for their ability to prolong the reaction time of motor nociceptive responses in 2 established analgesimetric tests: the thermal receptacle and the hot plate method. In intact mice only morphine showed a marked dose dependent antinociceptive activity by both methods. Methotrimeprazine ranked higher than morphine, as measured by its ED<sub>50</sub>, in the hot plate method, but it showed an early ceiling effect in the thermal receptacle technique. Pentazocine showed a very early ceiling effect in both tests. Transections tangent to the superior colliculi did not significantly modify the mean reaction times recorded in either of the 2 methods, though they caused a significant change in the pattern of response of mice tested by the hot plate technique. Drug parameters, as ED<sub>50</sub>'s and slope functions, remained unchanged following decerebration, except for a significant drop in the potency of morphine as determined by the thermal receptacle method. The relevance of these findings to mechanisms of analgesic action and the reliability of analgesic screening are discussed. 11 references. (Author abstract modified)

**105014 Chou, S.C.; Ramanathan, S.; Heu, P.; Conklin, K.A.** Pharmacology Department, School of Medicine, University of Hawaii, 3675 Kilauea Ave., Honolulu, Hawaii 96816 Chlorpromazine ef-

fects on macromolecular syntheses in synchronized *Tetrahymena*. *Pharmacology*. 6(1):1-8, 1971.

An investigation was made of chlorpromazine effects on macromolecular syntheses in synchronized *tetrahymena*. Chlorpromazine (CPZ) inhibits synchronized cell division in *Tetrahymena pyriformis* with 100% inhibition occurring at 8 micrograms/ml. CPZ markedly inhibited the incorporation of precursors into DNA and RNA, but had little effect on the incorporation of acetate into lipids. Amino acid incorporation into protein was also blocked, however, uptake of amino acid by the cell was inhibited to a similar extent. This indicates that CPZ had no direct inhibitory effect on protein synthesis. The data indicate that CPZ may have other sites of action with nucleic acid syntheses appearing to be potential sites of primary inhibition in *T.pyriformis*. 13 references. (Author abstract modified)

**105118 Boissier, Jacques-Robert, Etevenon, Pierre; Piarroux, Marie-Claire; Simon, Pierre.** Unite de Recherches de Neuro-Psycho-Pharmacologie INSERM.2 rue d'Alesia, 75 Paris France Effects of apomorphine and amphetamine in rats with a permanent catalepsy induced by diencephalic lesion. *Research Communications in Chemical Pathology and Pharmacology*. 2(6):829-836, 1971.

Control animals and rats displaying a permanent catalepsy with bilateral lesion of the medial forebrain bundle, at the diencephalic level of the subthalamus, were treated with apomorphine hydrochloride (1.5mg/kg i.b.) or with amphetamine sulfate (5mg/kg i.p.). Three behavioral symptoms: compulsive gnawing, stereotyped movements of the head and forepaws, and agitation, were simultaneously measured under specific experimental conditions. In controls, amphetamine induced chiefly stereotypies whereas apomorphine induced the 3 symptoms. The lesioned rats reacted to apomorphine in the same way as the controls. The lesioned rats reacted to amphetamine differently than the controls: more compulsive gnawing and agitation, less stereotypies. The site of action of apomorphine for compulsive gnawing behavior appears to be mostly at the nigro-striate level, whereas amphetamine action requires the integrity of the medial forebrain bundle for the stereotypies and agitation. 8 references. (Author abstract)

**105391 Hattori, Keisuke, Shibata, Shoji.** Department of Pharmacology, Faculty of Medicine, Kyoto

University, Sakyoku, Kyoto, Japan The effect of cocaine on catechol-0-methyltransferase and on the response to norepinephrine of rabbit aortic strips. *Japanese Journal of Pharmacology* (Kyoto). 21(4):559-562, 1971.

The relationship between the effect of cocaine on catechol-0-methyltransferase (COMT) activity and the potentiation of norepinephrine induced contraction of rabbit aortic strips was investigated. High concentrations of cocaine decreased the COMT activity, but reduced the amplitude of the contractile response to norepinephrine. Pyrogallol did not reduce COMT activity and developed no potentiation on the contractile response of aortic strips to norepinephrine. Pyrogallol produced potentiation and had an inhibitory effect on COMT activity. Pretreatment with cocaine for 20 min., but not with pyrogallol, reduced the ED50 for phenylephrine. The difference in action between pyrogallol and cocaine on the response to phenylephrine strongly suggests that the mechanism of cocaine induced potentiation is entirely different from that of pyrogallol induced potentiation. It seems likely that pyrogallol induced potentiation is dependent on the presence of the COMT system. It seems unlikely that the inhibition of monoamine oxidase is involved in the cocaine induced potentiation of the response to exogenous norepinephrine. Cocaine induced potentiation does not reflect the action of an increased concentration of agonist in the environment of tissue receptors as a consequence of the inhibition of cocaine on the COMT system. 11 references.

105403 Tonge, Sally R.; Leonard, B.E. School of Pharmacy, Liverpool Polytechnic, Byrom Street, Liverpool, U.K. Variation in hydroxytryptamine metabolism in the rat: effects on the neurochemical response to phencyclidine. *Journal of Pharmacy and Pharmacology* (London). 23(9):711-712, 1971.

The effects of phencyclidine on 5-hydroxytryptamine (5-HT) concentrations in 2 different sources of Wistar rats were studied. A dose of 10mg/kg of phencyclidine caused an increase in 5-HT and a decrease in 5-hydroxyindoleacetic acid (5-HIAA) in one source of rats; directly opposite results were obtained from the other source. The ratios of 5-HIAA to 5-HT in both sources of rats are reported. Results suggest a difference in the normal interneuronal metabolism of 5-HT in the 2 sources. The effects of p-chlorophenylalanine on 5-HT from the 2 sources of rats at 0 and 16 min

shows the 5-HT to be depleted, but at different rates for both sources. The difference in the rates of depletion suggest a possible explanation of the substrain variation in the response to phencyclidine. 12 references.

105404 Hill, H.F.; Horita, A. Department of Pharmacology, School of Medicine, University of Washington, Seattle, Washington 98105 Inhibition of d-amphetamine hyperthermia by blockade of dopamine receptors in rabbits. *Journal of Pharmacy and Pharmacology* (London). 23(9):715-717, 1971.

The ability of pimozide, a potent and selective inhibitor of central dopaminergic functions, to antagonize d-amphetamine hyperthermia was investigated in rabbits. Preliminary observations indicate that pimozide is a potent antagonist of d-amphetamine hyperthermia. Since pimozide is believed to exert its inhibitory effect at the receptor level the results suggest that operational dopamine receptors are necessary for the production of hyperthermia by d-amphetamine. 13 references. (Author abstract modified)

105406 Hayashida, Kikue; Smith, Alfred A. Department of Anesthesiology, New York Medical College, New York 10029 Reversal by sotalol of the respiratory depression induced in mice by ethanol. *Journal of Pharmacy and Pharmacology* (London). 23(9):718-719, 1971.

The reversal by sotalol of the respiratory depression in mice by ethanol was studied. Five groups of at least 10 mice were injected with ethanol in doses ranging from 1 to 5g/kg, and some of each group were tested 45 min. after injection. A dose related fall in pH with a concomitant rise in pCO<sub>2</sub> was found. The remaining mice were injected with sotalol 15 min after ethanol injection and were tested 30 min later. Capillary blood pH did not fall except at highest ethanol doses, while pCO<sub>2</sub> rose only slightly. Results suggest that ethanol alone, and not acetaldehyde, depresses respiration. The sleeping time was slightly attenuated in mice treated with ethanol (4g/kg) and subsequently with sotalol. There was however, no shortening of sleeping time for mice given the larger dose of 5g/kg despite relief of the respiratory depression and acidosis. 2 references.

105407 Franko, Bernard V.; Ward, John W. A.H. Robins Research Laboratories, 1211 Sherwood Avenue, Richmond, Va. 23220 Nikethamide and

doxapram effects on pentazocine- and morphine-induced respiratory depression. *Journal of Pharmacy and Pharmacology (London)*. 23(9):709-710, 1971.

A comparison of doxapram and nikethamide in dogs anesthetized with phenobarbitone sodium is reported. All drugs were administered intravenously. Respiratory parameters were recorded with a pneumotachograph, a volumetric pressure transducer, a unit integrator, and a polygraph. Respiratory minute volume was decreased by both pentazocine and morphine to about 45% of control values. Subsequent administration of nikethamide did not significantly increase minute volume that had been decreased by either analgesic. In contrast, doxapram significantly improved the respiratory depression that was induced by both analgesics as observed by the increase in minute volume. Respiratory amplitude was not reduced by pentazocine or morphine and it was not enhanced by either nikethamide or doxapram. Nikethamide had no effect on respiratory rate, but doxapram significantly antagonized both pentazocine and morphine induced bradypnoea. Doxapram holds an important advantage over narcotic antagonists also in that it can maintain adequate respiratory function without detectably decreasing the pain relieving action of narcotic analgesics. 2 references.

105410 Bhatnagar, R.K.; Moore, K.E. Department of Pharmacology, Michigan State University, East Lansing, Michigan 48823 Maintenance of noradrenaline in neuronal cell bodies and terminals: effect of frequency of stimulation. *Journal of Pharmacy and Pharmacology (London)*. 23(8):625-627, 1971.

The effects of alpha-methyltyrosine, desipramine, and different frequencies of stimulation on the noradrenaline contents of superior cervical ganglia, salivary glands and nictitating membranes of cats were investigated. When the effects of drugs in all nonstimulated tissues were collated it was clear that alpha-methyltyrosine, but not desipramine, significantly reduced the noradrenaline content of ganglia. Neither desipramine nor alpha-methyltyrosine significantly altered noradrenaline contents in salivary glands and nictitating membranes. Preganglionic stimulation alone or in the presence of alpha-methyltyrosine or desipramine, or both, did not alter the noradrenaline content of ganglia. Thus, noradrenaline in ganglia is maintained by synthesis independent of the frequency of neuronal ac-

tivity. In contrast to the ganglia, preganglionic stimulation alone reduced noradrenaline concentrations in salivary glands. Alpha-methyltyrosine caused a further reduction in the stimulus induced decline of noradrenaline at both 2 and 10 Hz (to 57 and 12% respectively), whereas desipramine increased the depletion of noradrenaline only at the higher frequency of stimulation. The combination of desipramine and alpha-methyltyrosine enhanced the noradrenaline depletion at 2 Hz and caused an almost total depletion at 10 Hz. The effects of preganglionic stimulation, desipramine and alpha-methyltyrosine in nictitating membranes were qualitatively similar to those seen in salivary glands with the effects being significant only at the higher frequency of stimulation and the changes in noradrenaline concentrations being less pronounced. 12 references.

105411 Dean, H.G.; Hughes, I.E. Department of Pharmacology, The Medical School, Thoresby Place, Leeds LS2 9NL, Yorkshire, U.K. Effect of amphetamine on the uptake, release and effectiveness of xylocholine in the guinea-pig vas deferens. *Journal of Pharmacy and Pharmacology (London)*. 23(8):606-611, 1971.

Amphetamine sulfate will both reverse and prevent the adrenergic neuron blocking action of xylocholine bromide (TM10 bromide) on the response of the guinea pig isolated vas deferens to transmural electrical stimulation. A concentration of amphetamine sulfate capable of reversing the effect of xylocholine does not produce a significant reduction in the tissue concentration of 14C-TM10 iodide in the vas deferens. Although amphetamine reduces the rate of uptake of xylocholine, it does not prevent uptake. Comparisons of tissue concentrations with the degree of blockade produced in the normal and the amphetamine treated vas deferens suggest that if the actions of amphetamine are to be accounted for entirely by displacement of xylocholine or by changes in uptake of xylocholine, only a very small percentage of the total tissue content of xylocholine can be involved in the production of its effects. 4 references. (Author abstract modified)

105426 Ng, K.Y.; Gehard, R.E.; Chase, T.N.; MacLean, P.D. Laboratory of Clinical Science, NIMH, 9000 Rockville Pike, Bethesda, Md. 20014 Drug-induced dyskinesia in monkeys: a pharmacologic model employing 6-hydroxydopamine.

(Unpublished paper). Rockville, Md. NIMH, 1971. 2 p.

The effects of various centrally active drugs on motor function in 6-hydroxydopamine (6-OHDA) pretreated monkeys are reported. Both saline injected (control) and 6-OHDA pretreated monkeys showed similar behavioral changes to L-dopa (in combination with a peripheral decarboxylase inhibitor OMK4860) including hyperkinesia and alerting response. However, 6-OHDA pretreated animals, in addition, developed a variety of movement disorders including choreoathetosis and dystonia as the dose of L-dopa was increased. No comparable movement disorders were observed in control animals at similar L-dopa dose levels. Monkeys which developed involuntary movements while on L-dopa exhibited identical movements after receiving apomorphine. The findings lend direct support to the hypothesis that hypersensitivity of catecholaminergic receptors may be involved in the production of dyskinesias during L-dopa treatment and suggest that 6-OHDA treated primates may provide a useful model for future studies of the relationship between catecholamine containing neural systems and spontaneous and drug induced involuntary movement disorders in man.

105518 Israel, Mark A.; Kuriyama, Kinya. Division of Neuropharmacology and Neurochemistry, Psychiatry Dept., State University of New York, Downstate Medical Center, Brooklyn, N.Y. Effect of in vivo ethanol administration on adenosinetriphosphatase activity of subcellular fractions of mouse brain and liver. *Life Sciences*. 10(2):591-599, 1971.

Adenosinetriphosphatase (ATPase) activities of mouse brain synaptosomal fraction and microsomal and purified mitochondrial fractions of mouse brain and liver were studied following acute and chronic ethanol administration. At 1 and 3 hours after intraperitoneal injection of 4g/kg body weight of ethanol, brain mitochondrial activity was significantly increased over levels in untreated animals by 34% and 57% respectively. A significant increase in liver mitochondrial ATPase activity was observed 3 hours after the injection of ethanol. After 2 weeks of continuous oral ethanol administration, ATPase activities in the mitochondrial fractions of brain and liver were significantly increased 64% and 27% over levels in untreated animals. The increase in mitochondrial ATPase activity was shown to be

predominantly  $Mg^{++}$  dependent, ouabain insensitive ATPase and not DNP - activated ATPase. Synaptosomal and microsomal ATPase activities were not affected by acute and chronic in vivo administration of ethanol. 19 references. (Author abstract)

105704 Enna, S.J.; Shore, P.A. Department of Pharmacology, University of Texas, Southwestern Medical School, Dallas, Texas 75235 Regional distribution of persistently bound reserpine in rat brain. *Biochemical Pharmacology (Oxford)*. 20(10):2910-2912, 1971.

Regional distribution of reserpine in rat brain after intravenous administration was examined. There was no clear correlation between the relative distribution of reserpine and that of any single endogenous monoamine. It might be that reserpine localization in brain is dictated by the distribution of axons containing any one of the monoamines. However, it should be pointed out that the cortex, which contains little of any of the amines, bound appreciable concentrations of reserpine. The specificity of reserpine binding was examined in two ways. Findings suggest that specific reserpine binding sites are widespread in the brain and that they are not well correlated with the anatomical distribution of any single brain monoamine although the degree of reserpine binding in peripheral organs seems to be correlated with the degree of adrenergic innervation. Specific and persistent reserpine binding in cortex, which has a low content of any of the endogenous monoamines, may reveal the presence of monoaminergic systems not associated with large amine storage pools. The subcellular site of reserpine binding in brain may not necessarily be limited only to amine storage granules within monoaminergic neurones or, alternatively, in some brain regions such granules have a low monoamine content. 8 references.

105706 Asghar, Khursheed; Roth, Lloyd J. Department of Pharmacology, University of Chicago, Chicago, Ill. 60637 Entry and distribution of hexamethonium in the central nervous system. *Biochemical Pharmacology (Oxford)*. 20(10):2787-2795, 1971.

Regional brain distribution of 3H- or 14C-labeled hexamethonium was studied after i.v. and intraventricular administration in rabbits and rats by radiochemical and autoradiographic techniques. Hexamethonium penetrated into vari-

ous brain regions within 5 min after i.v. administration in pharmacologically significant amounts, with lower concentrations at 1 hr. Using cellular autoradiography, hexamethonium was seen in arachnoid-pia, and also associated with cellular elements of the central nervous system. After intraventricular administration, choroid accumulated a significantly higher concentration of hexamethonium than after i.v. administration. Choroid plexus appear to transfer hexamethonium by active transport from the cerebral spinal fluid to the circulation. 58 references. (Author abstract)

**105707** Forn, J.; Valdecasas, F.G. Departamento de Farmacologia, Facultad de Medicina, Casanova 143, Barcelona 11, Spain Effects of lithium on brain adenyl cyclase activity. *Biochemical Pharmacology (Oxford)*. 20(10):2773-2779, 1971.

Sodium fluoride induced adenyl cyclase activity of rat and rabbit cerebral cortex homogenates is inhibited by a wide range of concentrations of lithium. Lithium also inhibits norepinephrine (NE) induced formation of adenosine 3',5' cyclic monophosphate (cyclic AMP) in cerebral cortex slices of rat, and histamine induced formation of cyclic AMP in cerebral cortex slices of rabbit. The effects of lithium are already evident at a 2 mM concentration, and are specific for this ion. This concentration is easily achieved during the treatment of acute manic patients with lithium, suggesting that the psychosedative effects of lithium may be related to the inhibition of brain adenyl cyclase. 27 references. (Author abstract)

**105708** Corona, G.L.; Facino, R. Maffei; Santagostino, G. Istituto di Farmacologia e Farmacognosia, Università di Pavia, 27100 Pavia, Italy Influence of a chronic treatment on the distribution of amitriptyline and metabolites in rabbit brain. *Biochemical Pharmacology (Oxford)*. 20(10):2765-2771, 1971.

The distribution of amitriptyline and its basic metabolites in rabbit brain was studied after acute and chronic administration. The metabolizing activity of liver and brain homogenates from untreated and chronically pretreated rabbits was also evaluated. After chronic pretreatment, the disappearance of amitriptyline from brain areas is delayed and the levels of drug metabolites are lower, while a marked increase in the metabolizing activity of liver and brain homogenates is noticed. Chronic amitriptyline treatment induces membrane per changes, thus influencing the

mechanism of transport and distribution of the same drug into and out of the cells. 17 references. (Author abstract modified)b

**105709** Deitrich, Richard A.; Collins, Allan C.; Erwin, V. Gene. Department of Pharmacology, University of Colorado, School of Medicine, Denver, Colo. 80220 Effect of pyrazole in vivo on aldehyde metabolism in rat liver and brain. *Biochemical Pharmacology (Oxford)*. 20(10):2663-2669, 1971.

The effect of administration of pyrazole in vivo on aldehyde reduction and oxidation was studied in rat liver and brain. It was found that while pyrazole is capable of complete inhibition of NADH dependent reduction of a number of aldehydes in liver, it is only partially effective as an inhibitor of NADPH dependent aldehyde reduction and is ineffective as an inhibitor of NAD dependent aldehyde oxidations in liver. No effect of pyrazole on oxidation or reduction of aldehydes in brain was found. Pyrazole has a rapid onset of action in vivo and has an effective half life for inhibition of NADH dependent aldehyde reduction in rat liver of about 76 hr following a dose of 360mg/kg intraperitoneally. 13 references. (Author abstract)

**105710** Vaccari, A.; Vertua, R.; Furlani, A. University Institute of Pharmacology, Faculty of Pharmacy, Via Capo S. Chiara 5, Genova, Italy Decreased calcium uptake by rat fundal strips after pretreatment with neuraminidase or LSD in vitro. *Biochemical Pharmacology (Oxford)*. 20(10):2603-2612, 1971.

Treatment with neuraminidase plus ethylenediaminetetraacetic acid disodium salt (EDTA) diminished 45Ca uptake by fundal strips; this decrease occurred also in the presence of 5-hydroxytryptamine (5-HT), D-amphetamine (DA) and eledoisin. At the same time, 5-HT, DA and eledoisin induced contractions were blocked to varying extents. Lysergic acid diethylamide (LSD) also caused a decrease in 45Ca uptake; the decrease remained sustained also when applying 5-HT or DA, and contractions due to these drugs were completely blocked. In opposite, eledoisin addition increased 45Ca uptake after LSD, and also it was able to provoke muscle contractions. From these results, drug induced contractions are envisaged as occurring in 4 stages: (1) drug receptor interaction; then (2) calcium ganglioside interaction; then (3) calcium transport leading to (4)

contraction. It is concluded that gangliosides may be a functional part of carrier molecules rather than portions of drug receptors. Moreover, the results obtained with neuraminidase and LSD lead to the hypothesis that they act possibly by interfering with the active transfer of calcium ions to the contractile structures: the former by destroying the calcium transport sites and the latter by blocking the receptor sites where agonists act. 36 references. (Author abstract)

**105726** Buznikov, G.A.; Zvezdina, N.D.; Markova, L.N. Institut biologii razvitiia AN SSSR, Moscow, USSR /On the reaction of fertilized Echinoderm eggs to neuropharmacological drugs./ O reaktsii oplodotvorenykh iaitseketok iglokozhikh na neurofarmakologicheskie preparaty. *Zhurnal Evolutsionnoy Biokhimii i Fiziologii (Leningrad)*. 7(3):241-246, 1971.

The increase in concentration of fertilized Echinoderm eggs sharply reduces their sensitivity to neuropharmacological drugs, even when the increase is not accompanied by unfavorable aeration conditions, but does not influence sensitivity to other embryo blocking agents. Results of a series of experiments concerning indolilalkylamines and their derivatives, derivatives of phenothiazine, phenylalkylamines, derivatives of diphenylhydroxy acetic acid and other preparations showed that these agents possess a common property, independent of their chemical nature and specific pharmacological action: sensitivity to them decreases to complete disappearance upon a moderate increase in egg concentration. The discovery of this regularity broadens the possibilities for analysis of neuropharmacological effects and for investigation of the role of low molecular regulators of the embryonic developmental process. 13 references.

**105840** Likovsky, Z.; Votava, Z. Research Institute for Pharmacy and Biochemistry, Kourimska 17, Prague 3, Czechoslovakia Pharmacological properties of a new potential neuroleptic drug oxyprothepin: III. Electroencephalographic study in rabbits. *Activitas Nervosa Superior (Praha)*. 13(3):187-188, 1971.

A study of the effect of oxyprothepin on electroencephalograms in 14 adult male rabbits with chronic implanted brain electrodes in cortical areas, dorsal hippocampus, and medial thalamus is reported. The drug was found to induce a resting pattern in all leads characterized by high volt-

age waves of slow frequency with spindles in cortical areas and irregular fast wave activity in limbic areas, with corresponding behavior sedation. The effect was related to the dosage administered. When the electroencephalographic arousal evoked by sound or by injection of cholinomimetic drugs was curtailed, physostigmine arousal was the most affected.

**105841** Dlabac, A.; Metys, J.; Metysova, J. Research Institute for Pharmacy and Biochemistry, Kourimska 17, Prague 3, Czechoslovakia Pharmacological properties of a new potential neuroleptic drug oxyprothepin: IV. Antianadrenergic action and influence on brain monoamines. *Activitas Nervosa Superior (Praha)*. 13(3):188-189, 1971.

The interaction of oxyprothepin with several adrenergic, cholinergic, and other drugs and its influence on brain monoamines was studied in rats and mice. Oxyprothepin manifested strong antianadrenergic activity, both central and peripheral. Both drugs strongly prevented mortality in rats induced by norepinephrine and mortality in mice induced by epinephrine. While a strong antiserotonin and antianaphylactoid action of oxyprothepin was noted in rats and a certain antihistaminic effect was found in guinea pigs, no anticholinergic actions of oxyprothepin were detected. The drug possessed a potent antiadrenergic, cataleptic, ptotic, and central depressant action. In rats, its activity was similar to that of perphenazine. 3 references.

**105906** Votava, Z.; Vojtechovsky, M. Kourimska 13, Prague 3, Czechoslovakia An experimental and clinical contribution to interaction of alcohol and diazepam. *Activitas Nervosa Superior (Praha)*. 13(3):197-198, 1971.

Results of a study of the interaction of alcohol and diazepam on the electroencephalogram and behavior of 20 rats with chronic implanted brain electrodes in cortical areas, dorsal hippocampus, and medial thalamus indicate that alcohol evoked the electroencephalogram and behavioral arousal, while diazepam caused only a resting pattern in the electroencephalogram without any marked lowering of motility. When diazepam was administered in 2 to 10mg to reduce aggressive behavior ensuing from heavy alcohol intoxication, respiration was very depressed for 1 hour following intramuscular injection, probably due to the myorelaxation caused by the interaction of alcohol and diazepam.

**105907** Krsiak, M.; Borgesova, M.; Fernandez, S. Institute of Pharmacology CzSAV, Albertov 4, Prague 2, Czechoslovakia Antialcohol effects of some ethanolamine preparations. *Activitas Nervosa Superior (Praha)*. 13(3):198, 1971.

Tests were conducted with male mice to determine further the antiethanol effects of some ethanolamine derivatives measured by the rota-rod method and to ascertain whether these drugs antagonize a falling off the rota-rod induced by barbitone and chlorpromazine. Alcohol was administered perorally as a 20% ethanol solution in all the experiments. Maximum protection against alcohol effect was attained 30 minutes after monoethanolamine pretreatment. Peroral pretreatment by increasing the doses of monoethanolamine 30 minutes before alcohol ingestion caused a decrease of alcohol effect dependent upon dosage. Diethanolamine and triethanolamine pretreated perorally 30 minutes before alcohol in doses equimolar to 1020mg/kg of monoethanolamine significantly increased the ED50 for falling of the rota-rod induced by alcohol. Monoethanolamine given perorally in a dose of 1020mg/kg 30 minutes before oral administration of either barbitone or chlorpromazine significantly antagonized their fall off effects measured on the rota-rod. Thus, monoethanolamine was found to protect against alcohol intoxication in comparatively low doses if given perorally 30 minutes before alcohol ingestion. The investigated protective effect of ethanolamine derivatives does not appear to be limited only to alcohol. 2 references.

**105950** Goridis, C.; Neff, N.H. Laboratory of Preclinical Pharmacology, National Institute of Mental Health, Saint Elizabeth's Hospital, Washington, D.C. 20032 Monoamine oxidase: an approximation of turnover rates. *Journal of Neurochemistry*. 18(9):1673-1682, 1971.

One hour after the intravenous injection of pargyline (10mg/kg), the activity of monoamine oxidase (EC 1.4.3.4) in various brain regions, in the submaxillary gland and in the superior cervical ganglion of the rat was inhibited by about 95%. From the return of monoamine oxidase activity with time, it was estimated that the half-life of the enzyme is about 11 days in the brain and 4 days in the submaxillary gland and superior cervical ganglion. The return of activity was inhibited by treatment with cycloheximide. The half-life of monoamine oxidase in brain regions bore no relationship to the turnover rates of the monoamines. 25 references. (Author abstract)

**105991** Fusek, J.; Kabes, J.; Fink, Z. Purkyne Medical Research Institute, Hradec Kralove, Czechoslovakia Peripheral effects of anticholinergic psychotomimetics. *Activitas Nervosa Superior (Praha)*. 13(3):191-193, 1971.

The peripheral effects were studied of acetylcholine chloride (ACH), butyl-trimethyl-ammonium-bromide (BTAB), atropine sulphate (ATR), scopolamine bromide (SCOP), benactyzine hydrochloride (BNZ), N-methyl-3-piperidyl benzilate (JB-336), and the compound composed from N-methyl-3-piperidyl-phenylcyclopentyl glycolate and N-ethyl-2-pyrrolidyl-methylphenyl cyclopentyl glycolate on the contraction of isolated rat jejunum and on isolated rat heart atria. Anticholinergic agents administered in isolation had no effect, but when applied before BTAB they shifted the BTAB concentration response curve to higher concentrations, with the shift dose being dependent. The obtained results indicate that ACH and BTAB are pure agonists under the given experimental conditions and that the other investigated drugs are their competitive antagonists. The cholinceptive sites are altered by anticholinergic hallucinogens. 11 references.

**105992** Vachek, J.; Kabes, J. Purkyne Medical Research Institute, Hradec Kralove, Czechoslovakia JB 336 effect on the central adrenergic system. *Activitas Nervosa Superior (Praha)*. 13(3):193, 1971.

The influence of N-methyl-3-piperidyl benzilate (JB-336) on brain catecholamine levels and norepinephrine and dopamine content in the cortex, brain stem, and in the total brain tissue were investigated in a study with rats. JB-336 was administered intraperitoneally in dosages of 2.0, 5.0, and 12.5mg/kg 30, 90, and 270 minutes, respectively, before the animals were killed. The most marked changes were decreases in norepinephrine and dopamine with a maximum in 90 minutes. There was no difference between the drug effect in the cortex and brain stem, and no characteristic changes were observed after 30 minutes. A general restitution occurred in 270 minutes. In regard to the long latency of the changes and the high dosages of JB-336, the brain catecholamine decrease appears to be a result of a secondary, nonspecific influence of the studied drug. 5 references.

**105993** Kabes, J.; Fink, Z.; Fusek, J.; Vachek, J. Perneroova 1606, Pardubice, Czechoslovakia Central anticholinergic activity of JB 336. *Activitas Nervosa Superior (Praha)*. 13(3):193-194, 1971.

In a study of the influence of N-methyl-3-piperidyl benzilate (JB-336) on the content and metabolism of brain acetylcholine (ACh) in rats, ACh was extracted and its concentration in samples obtained after the homogenization of the particular brain parts was tested against standard ACh on the frog abdominis muscle. While there was a decrease of ACh in the cortex and brain stem following administration of 0.8 and 2.0 mg/kg of JB-336 15 and 30 minutes, respectively, after the animals were killed, in the ninetieth minute there was already a restitution of ACh levels up to the normal values in both structures. In an investigation of the alternation of ACh metabolism and participation of the changes in the respective metabolic processes in the net effect using the same dosages and time intervals, an initial decrease of the total ACh was followed by an inhibition of ACh synthesis. The obtained results indicate the strong central anticholinergic activity of JB-336. 10 references.

**106059 Strada, Samuel J.; Klein, David C.; Weiss, Benjamin.** Laboratory of Preclinical Pharmacology, NIMH, St. Elizabeths Hospital, Washington, D.C. 20032 Effect of norepinephrine on the concentration of adenosine 3',5'-monophosphate of rat pineal gland in organ culture. (Unpublished paper). Washington, D.C. NIMH, 1971, 7 p.

Results of experimentation involving the biochemical actions of norepinephrine in the rat pineal gland are reported. The in vitro addition of norepinephrine to rat pineal glands maintained in organ culture caused about a 6 fold increase in the endogenous concentration of adenosine 3',5'-monophosphate (cyclic 3',5'-AMP). This increase was evident within 5 minutes and the concentration of cyclic 3',5'-AMP remained elevated for more than 2 hours. A significant increase in the levels of the cyclic nucleotide was also seen with norepinephrine. The beta adrenergic blocking agent, propranolol, completely inhibited the norepinephrine induced elevation of cyclic 3',5'-AMP whereas the alpha adrenergic drug, phenolamine, was totally ineffective. The time course of the increased concentration of cyclic 3',5'-AMP in response to norepinephrine was compatible with a theory of a norepinephrine-adenylate cyclase-cyclic 3',5'-AMP dependent mechanism being responsible for changes of the activity of N-acetyltransferase and in the production of melatonin by the pineal gland. 29 references. (Author abstract modified)

**106060 Uzunov, Petko; Weiss, Benjamin.** Laboratory of Preclinical Pharmacology, NIMH, St. Elizabeths Hospital, Washington, D.C. 20032 Psychopharmacological agents and the adenosine 3',5'-monophosphate system of rat brain. (Unpublished paper). Washington, D.C. NIMH, 1971, 15 p.

Results of research on the effects of several psychotropic compounds on the cyclic adenosine 3',5'-monophosphate (AMP) system of the rat brain are reported, in an attempt to further pursue the hypothesis that cyclic AMP may play a role in the function of the central nervous system and in normal and deviant behavior. The drugs were divided into 2 general categories: (1) agents which alleviate certain symptoms of endogenous psychoses, or psychotolytics; and (2) compounds that elicit some of the symptoms of psychoses, or psychotomimetics. It was found that the first category, including such drugs as phenothiazines, thioxanthenes, butyrophenones, and lithium, all produced the same effect on the rat brain. None changed the basal level of cyclic AMP, but all prevented the rise of cyclic AMP induced in vivo by decapitation and in vitro by addition of norepinephrine to brain slices. It was concluded that these drugs prevent the rise of cyclic AMP by inhibiting the activation of adenylyl cyclase. In addition, evidence suggesting that cyclic AMP may be involved in drug induced experimental psychoses was derived from research using the psychotomimetic group, the administration of which all raised the concentration of cyclic AMP in the brain. The mechanism of action in this case, however, could not be determined. Some implications of these findings for better understanding of the function of cyclic AMP in the central nervous system, as well as for future research efforts in this area, are suggested. 51 references.

**106065 Spehlmann, R.; Daniels, J.C.; Chang, C.M.** Dept. of Neurology, Northwestern Univ. Medical School, Chicago, Ill. The effects of eserine and atropine on the epileptiform activity of chronically isolated cortex. *Epilepsia (Amsterdam)*. 12:123-132, 1971.

A study was designed to test the hypothesis that the epileptiform activity of chronically isolated cortex is due to supersensitivity to endogenous acetylcholine. Eserine and atropine were administered systemically to cats with chronically isolated occipital cortex and implanted

EEG recording electrodes. Eserine usually diminished the amplitude and increased the duration of the epileptiform EEG discharges in the isolated area. These changes were antagonized by a subsequent administration of atropine. Atropine, without a preceding application of eserine, did not abolish the paroxysmal discharges but tended to obscure them by inducing slow waves in the island. In contrast, diazepam was very effective in abolishing the paroxysmal discharges. The effects of both eserine and atropine on the paroxysmal activity of the island occurred only at those dosage levels that produced changes in the EEG from other areas of the brain. These results do not support the hypothesis investigated. 14 references. (Author abstract)

**106092** Herink, J.; Hrdina, V. Purkyne Medical Research Institute, Simkova 878, Hradec Kralove, Czechoslovakia The comparison of the effects of atropine and benactyzine on some structures of limbic system of the rats. *Activitas Nervosa Superior (Praha)*. 13(3):221-222, 1971.

Atropine and benactyzine were given to 132 male albino rats weighing 150 to 210g to investigate their effect on the afterdischarges of the hippocampus, amygdala, and cortex that were induced by electrical stimulation of the distinct septal area. Both anticholinergic drugs had an influence only upon limited septal areas, determined as the dorsal part of the lateral septal nucleus and the medial septal nucleus. It is of significant interest that both of these drugs may act on precisely localized parts of the septum and that these localized actions are responsible for some of the effects observed following administration of the anticholinergic drugs. 4 references.

**106093** Tikal, K.; Benesova, O.; Dyntarova, H. Institute of Pharmacology, Medical Faculty of Hygiene, Srobarova 50, Prague 10, Czechoslovakia The effect of amitriptyline on the behaviour and EEG of rats after depletion of serotonin by parachlorophenylamine. *Activitas Nervosa Superior (Praha)*. 13(3):219-221, 1971.

The effect of amitriptyline on the behavior and electroencephalogram of 20 male Wistar rats was studied under conditions of serotonin depletion, accomplished with para-chlorophenylamine. The animals had chronically implanted electrodes in the frontal and occipital cortex, thalamus, and hippocampus. Amitriptyline shortened the phase of electroencephalographic activation without

provoking substantial change in rat behavior, a factor which may indicate a dissociation between the electroencephalogram and behavior of the atropine type. Similar results were achieved with periodic acoustic stimulation. Amitriptyline shortened the electroencephalographic desynchronization evoked by physostigmine in rats. The action of the drug on spontaneous electroencephalogram and on sensory or physostigmine induced electroencephalographic arousal reactions is not influenced by the depletion of serotonin. 5 references.

**106094** Irmis, F. Psychiatric Research Institute, Prague 8, Czechoslovakia 'Dissociation' between EEG and spontaneous behaviour of rats after atropine. *Activitas Nervosa Superior (Praha)*. 13(3):217-218, 1971

Dissociation between the electroencephalograph and spontaneous behavior following administration of atropine sulfate was studied in 6 freely moving rats with chronically implanted electrodes in the frontal cortex and dorsal hippocampus. After saline solution administration, low voltage fast activity was recorded in the cortical electroencephalogram during all registered activities with the exception of sleep. Dissociation was manifested after 16 and 25mg/kg of intraperitoneal atropine without apparent toxic symptoms of behavior. In the hippocampal electroencephalogram, atropine did not suppress the theta rhythm during locomotion and rearing but suppressed it significantly during less intensive forms of exploratory activity. 3 references.

**106096** Kunz, K.; Benesova, O.; Tikal, K. Institute of Pharmacology, Medical Faculty of Hygiene, Charles University, Prague, Czechoslovakia Tryptophan-pyrrolase activity after chronic administration of reserpine and apomorphine in rats. *Activitas Nervosa Superior (Praha)*. 13(3):225-227, 1971.

Reserpine was administered to 33 rats and apomorphine was given to 30 different animals in an investigation of the effect of these drugs on the activity of tryptophan pyrrolase. Reserpine was found to increase the activity of pyrrolase. Imipramine completely antagonized this effect. Apomorphine enhanced the pyrrolase activity similarly to reserpine, but the simultaneously administered imipramine potentiated the activation. Both reserpine and apomorphine depressed the exploratory behavior of the rats in the open

field, but reserpine increased the time spent on grooming, while apomorphine decreased it. 7 references.

**106146** Locker, D.; Superstine, E.; Sulman, F.G. Department of Applied Pharmacology, School of Pharmacy, Hebrew University, Jerusalem, Israel The mechanism of the push and pull principle.VIII: endocrine effects of thalidomide and its analogues. *Archives Internationales de Pharmacodynamie et de Therapie (Gent)*. 194(1):39-55, 1971.

A study was made of the endocrine effects of administration of thalidomide and its analogues on rats. Specifically, thalidomide, morpholino-thalidomide, beta-thalidomide and morpholino-beta-thalidomide, given to young immature rats of both sexes from the 21st to the 160th day of life in doses of 5-10mg/kg/day i.p., were found to (1) stimulate LTH and ACTH production and/or secretion, and (2) inhibit FSH, LH and TSH production and/or secretion. The experimental observations point to the conclusion that the endocrine effects of thalidomide and its derivatives are mediated through the hypothalamus. 54 references. (Author abstract modified)

**106147** Idanpaan-Heikkila, J.E.; Taska, R.J.; Allen, H.Alton; Schoolar, J.C. Texas Research Institute of Mental Sciences, Houston, Texas Autoradiographic study of the fate of diazepam-C14 in the monkey brain. *Archives Internationales de Pharmacodynamie et de Therapie (Gent)*. 194(1):68-77, 1971.

Results are presented from an autoradiographic study of the fate of diazepam-C14 in the monkey brain. Four third trimester pregnant Cynomolgus iris monkeys were injected i.v. with diazepam-C14 and sacrificed after 1/2, 2, 6 or 24 hr. The maternal brain and the maternal tissue distribution of the diazepam-C14 were studied by autoradiography and liquid scintillation counting. The unchanged diazepam-C14 was distinguished from the diazepam metabolites by thin layer chromatography. The highest observed brain concentration of radioactivity occurred at 2 hr. At all of the time intervals the concentration of radioactive compounds was greater in the cerebral white than in the cerebral gray matter. Diazepam and its metabolites accumulated in relatively high concentrations in the liver, kidneys, adrenals, lungs, cerebral white matter, lateral geniculate body, optic tract, anterior commissure, corpus callosum,

dentate nucleus, pons and medulla. Relatively low accumulations of radioactivity were found in the abdominal muscle, bone marrow, cerebral gray matter, hippocampus, hypothalamus and caudate nucleus. After 24 hr 67% of the radioactivity in the liver and 72% in the plasma existed as unchanged diazepam. 14 references. (Author abstract modified)

**106148** Schlosser, W. Department of Pharmacology, Hoffmann-LaRoche Inc., Nutley, New Jersey Action of diazepam on the spinal cord. *Archives Internationales de Pharmacodynamie et de Therapie (Gent)*. 194(1):93-102, 1971.

The effect of diazepam (5-1.5mg) on the electrical potentials of the unanesthetized spinal cat was investigated. Diazepam did not significantly affect segmental monosynaptic potentials elicited from various inputs. Pure polysynaptic potentials were usually depressed. Diazepam produced a marked enhancement of the dorsal root reflex and presynaptic inhibition. It prolonged synaptic recovery time. Diazepam had little effect on post-tetanic potentiation, recurrent inhibition, motoneuronal recovery, and direct inhibition. It is postulated that the enhancement of presynaptic inhibition at the spinal level may play an important role in the muscle relaxing property of this compound. 18 references. (Author abstract)

**106149** Walland, A.; Kobinger, W. Pharmacological Laboratory of the Arzneimittelforschung G.M.B.H., Vienna 12 Laskegasse 5-11, Austria Sodium retention and noradrenaline sensitivity of the pupils and of the cardiovascular system. *Archives Internationales de Pharmacodynamie et de Therapie (Gent)*. 194(1):123-128, 1971.

The mydriatic effects of noradrenaline, cocaine and amphetamine were studied in rats which were unilaterally nephrectomized and treated for 8 weeks with cortexon M and sodium chloride. The sensitivity of the pupil was not increased by the sodium retentive treatment. The same rats, however, showed a marked augmentation of the hypertensive effect of noradrenaline. It is therefore concluded that sodium retention does not cause a general increase in the sensitivity of sympathetically innervated smooth muscles. 20 references. (Author abstract)

**106150** Meltzer, Y. Department of Psychiatry, University of Chicago, Pritzker School of Medicine, Chicago, Illinois 60637 Effects of isoproterenol on

rat plasma creatine phosphokinase activity. *Archives Internationales de Pharmacodynamie et de Therapie (Gent)*. 194(1):141-146, 1971.

The activity and isoenzymes of creatine phosphokinase (CPK) in plasma following isoproterenol were studied in male Sprague-Dawley rats. The peak increase in CPK activity was at 4 to 6 hours. Despite the fact that the doses of isoproterenol employed produce myocardial necrosis, only the skeletal muscle isoenzyme of CPK was found. The difference between these results and those of a study which employed a different method of blood collection are discussed. 10 references. (Author abstract)

106151 Ratcliffe, F. School of Pharmacy, Brighton Polytechnic, Brighton BN2 4GF, England The effect of mescaline and bufotenine on some central actions of noradrenaline. *Archives Internationales de Pharmacodynamie et de Therapie (Gent)*. 194(1):147-157, 1971.

Results are reported from experiments of the effect of 2 hallucinogens, mescaline and bufotenine, on the central actions of noradrenaline. Two parameters, reported to be indicative of such an action, were measured, namely the ability of noradrenaline to potentiate the depressant effect of amylobarbitone on the central nervous system and, the fall in body temperature which occurs following the intracerebral injection of the amine into mice. It was shown that both hallucinogens, at doses which may compare favorably with those producing hallucinations in man, showed a distinct ability to antagonize the central actions of noradrenaline. Furthermore, it would appear that this antagonism is due, at least in part, to a blockade of central adrenergic receptors. It is suggested that such an effect may contribute to the mechanism of hallucinogenesis. 14 references. (Author abstract modified)

106152 Thornburg, J.E.; Moore, K.E. Department of Pharmacology, Michigan State University, East Lansing, Michigan Stress-related effects of various inhibitors of catecholamine synthesis in the mouse. *Archives Internationales de Pharmacodynamie et de Therapie (Gent)*. 194(1):158-167, 1971.

Spontaneous locomotor activity (SLMA), brain contents of norepinephrine (NE) and dopamine (D), and levels of blood glucose and plasma corticosterone were determined in mice at various times after the intraperitoneal administration of inhibitors of catecholamine synthesis. The drugs

examined included the tyrosine hydroxylase inhibitors, alpha-methyltyrosine and alpha-methyltyrosine ethylester, the dopamine-beta-hydroxylase inhibitors, disulfiram and U-14624, and alpha-methyl-5-hydroxytryptophan. Each drug depressed SLMA, depleted brain NE, and elevated plasma levels of corticosterone. Alpha-methyltyrosine ethyl ester, the only water soluble drug tested, produced less initial depression of SLMA and elevation of plasma corticosterone levels than did the other drugs. Tyrosine and para-chlorophenylalanine caused a transient depression of SLMA and elevation of corticosterone levels, although neither drug significantly altered brain catecholamine contents. The data suggest that the intraperitoneal administration of insoluble compounds may, as a result of peritoneal irritation, cause effects unrelated to their actions on brain catecholamine contents; such nonspecific effects may be confounding factors in the analysis of the behavioral effects of these compounds. 13 references. (Author abstract)

106422 Turner, T.A.R.; Spencer, P.S.J. Pharmacology Department, R & D Division, Roussel Laboratories, Covingham, Swindon, Wilts, United Kingdom Preliminary evidence that syrosingopine produces a selective depletion of central stores of sympathomimetic amines. *Journal of Pharmacy and Pharmacology (London)*. 23(12):977-978, 1971.

Results of experimentation into the effect of syrosingopine, a synthetic analogue of reserpine, on the selective depletion of peripheral stores of sympathomimetic amines in rats are briefly reported. Two doses of the drug, 0.8mg/kg and 2mg/kg were used. The results are expressed as a percentage depletion of control concentrations. Each result is the mean of 5 determinations at each dose. Both doses of syrosingopine produced total depletion of central noradrenaline and dopamine, and also cardiac noradrenaline. However, there was a less marked depletion of central 5-HT concentrations which appeared to be dose related. 10 references.

106423 Beckett, A.H.; Mitchard, M.; Shihab, A.A. Department of Pharmacy, Chelsea College, Manresa Road, London, S.W.3, United Kingdom The influence of methyl substitution on the N-demethylation and N-oxidation of normethadone in animal species. *Journal of Pharmacy and Pharmacology (London)*. 23(12):941-946, 1971.

N-Monodemethylation and N-oxidation were shown to be the major routes of metabolism of normethadone, methadone and -isomethadone in vitro by hepatic microsomal preparations from rat, rabbit, guinea pig, mouse and hamster. The rate of N-oxidation was decreased and the rate of N-demethylation was increased by the introduction of the methyl substituent into normethadone; the configuration of the methyl substituent influenced these processes. Km and Vmax values were determined for liver microsomal N-demethylation of normethadone, -methadone and -isomethadone by rat and guinea pig and for the N-oxidation of normethadone by guinea pig. The use of selective inhibitors showed that N-demethylation was not preceded by N-oxidation in these compounds. 10 references. (Author abstract)

106425 Bauer, W. Stephen; Perley, J.E. Department of Biology, College of Wooster, Wooster, Ohio Diurnal variation of hepatic amphetamine concentrations in mice fed freely and fed single daily meals. *Journal of Pharmacy and Pharmacology (London)*. 23(12):976-977, 1971.

Results are briefly reported from a study of diurnal variation of hepatic amphetamine concentrations in mice fed freely and fed single daily meals. These indicated that hepatic amphetamine concentrations were highest during the night and lowest during the day in mice fed freely. A second rhythm was found in the meal fed mice, indicating that a phase shift induced by meal feeding had occurred. These results are consistent with those of others in that high concentrations of amphetamine are correlated in time with high susceptibility to the drug. Since reported activities of several oxidative drug metabolizing enzymes in mice are highest at night, the rate at which amphetamine is metabolized may not cause the rhythm. It remains to be determined that the rhythm represents a rhythm of metabolism rather than of uptake by the liver. 6 references.

106426 Oxenkrug, G.F.; Lapin, I.P. Laboratory of Psychopharmacology, Bekhterev Psychoneurological Research Institute, Leningrad, U.S.S.R. Effect of dimethyl and monomethyl tricyclic antidepressants on central 5-hydroxytryptamine processes in the frog. *Journal of Pharmacy and Pharmacology (London)*. 23(12):971-972, 1971.

Results are briefly reported from a study of the effect of dimethyl and monomethyl tricyclic an-

tidepressants on central 5-hydroxytryptamine (5-HT) processes in the frog. These indicate that dimethyl antidepressants are much stronger than their monomethyl derivatives in enhancing central 5-HT processes. Difference in the strength of potentiation (in the test of inhibition of the righting reflex) is not related to the sedative action of tricyclic antidepressants, as it can be seen from the ratio of sedation to potentiation. The same is also shown in the inability of antidepressants to potentiate, or to enhance, the sedative action of amylobarbitone. The minimal sedative dose of amylobarbitone was 60mg/kg. The results are also consistent with observations of others that the tertiary compounds have more pronounced influence on metabolism of indolealkylamines than have the secondary tricyclic antidepressants measured on uptake of 5-HT by the presynaptic membrane of serotonergic neuron and by blood platelets. 4 references.

106427 Pleuvry, Barbara J. Department of Anesthetics and Pharmacology, The University, Manchester, M13 9PL, United Kingdom Cross tolerance between methylamphetamine and morphine in the mouse. *Journal of Pharmacy and Pharmacology (London)*. 23(12):969-970, 1971.

Results are briefly reported from a study of cross tolerance between methylamphetamine and morphine in the mouse. Tolerance developed to the antinociceptive activity of morphine, methylamphetamine and physostigmine during a pretreatment course. No tolerance developed to the effects of oxotremorine. Marked cross tolerance was detected between methylamphetamine and morphine. Mice pretreated with methylamphetamine, when challenged with morphine, responded in a quantitatively identical manner to those pretreated with morphine. No cross tolerance existed between physostigmine and morphine, morphine having a similar effect in both physostigmine pretreated and nonpretreated control mice. 6 references.

106428 Lal, Samarthji; Missala, Krystyna; Sourkes, Theodore L. Department of Psychiatry and Biochemistry, McGill University, Montreal, Quebec, Canada Effect of neuroleptics on brain amphetamine concentrations in the rat. *Journal of Pharmacy and Pharmacology (London)*. 23(12):967-969, 1971.

Results are briefly reported from a study of the effect of neuroleptics on brain amphetamine con-

centrations and amphetamine-induced stereotyped behavior (ASB) in the rat. The results show that prolongation of behavioral effects of amphetamine by neuroleptics is related to increased half-life of amphetamine in the brain. Chlorprothixene, like chlorpromazine and prochlorperazine, impairs hydroxylation of amphetamine. Chlorpromazine, propericiazine and haloperidol increase brain amphetamine concentrations in the rat. This suggests that drug interaction at the level of hepatic drug metabolizing enzymes is a general mechanism whereby tissue amphetamine concentrations are raised and hence behavioral effects of amphetamine are influenced by neuroleptics. The delayed onset of ASB with trifluoromazine is presumably related to the competing central actions of amphetamine and tranquillizer on the striatal dopamine system in the brain which is believed to subserve ASB. The failure of perphenazine to prolong the half-life of amphetamine may be related to the small dose used, relative to the other drugs. This dose may have been sufficient for blockade of dopamine receptor sites but insufficient to impair the biotransformation of amphetamine. 8 references.

**106486** Constantinidis, J.; Miras, C.J. University of Geneva, Department of Psychiatry, Bel-Air, 1225 Geneva, Switzerland Effect of hashish smoke sublimate on hypothalamic noradrenaline studied by the fluorescence method. *Psychopharmacologia (Berlin)*. 22(1):80-90, 1971.

A histochemical study with the fluorescence method showed that administration of cannabis sublimate to rats increased the noradrenaline content of the terminal axonal varicosities of the hypothalamus, probably caused by a facilitation of noradrenaline uptake. The findings are discussed in relation to other known effects of cannabis derivatives, hypothermia, increased appetite and prolongation of amphetamine action. 38 references. (Author abstract)

**106491** Winocur, Gordon; Bagchi, S.P.; Hubbard, Pauline. Department of Psychology, Trent University, Petersborough, Ontario, Canada Effects of bufotenine and p-chlorophenylalanine on stress induced behavior. *Psychopharmacologia (Berlin)*. 22(1):100-110, 1971.

Two experiments were conducted in which it was found that bufotenine attenuated, relative to controls: (1) the manifestation of frustrative behavior as a function of nonreward in a double

runway situation and (2) fear reactions typically observed in an open field test. In both experiments, p-chlorophenylalanine, a serotonin depletor, was used effectively to counteract the behavioral effects of bufotenine. The results were interpreted as being in agreement with the general hypothesis that bufotenine reduces an animal's responsiveness to stimulus events. It was also suggested that the behavioral effects of bufotenine are related to its influence on normal serotonin metabolism. 19 references. (Author abstract)

**106492** Stern, Warren C.; Miller, Francis P.; Cox, Raymond H.; Maickel, Roger P. Worcester Foundation for Experimental Biology, Shrewsbury, Massachusetts 01545 Brain norepinephrine and serotonin levels following REM sleep deprivation in the rat. *Psychopharmacologia (Berlin)*. 22(1):50-55, 1971.

Rats deprived of rapid eye movement (REM) sleep and stress controls showed no change in endogenous levels of norepinephrine and serotonin in the cerebral hemispheres, diencephalon, and brain stem. Following pargyline, the REM sleep deprived and stress controls showed no change in endogenous levels of norepinephrine and serotonin in the cerebral hemispheres, diencephalon, and brain stem. Following pargyline, the REM sleep deprived and stress control groups showed equally elevated norepinephrine and serotonin levels. These results suggest that enhanced biogenic amine synthesis following REM sleep deprivation is due to nonspecific stress rather than to loss of REM sleep per se. 16 references. (Author abstract)

**106524** DeFeudis, F.V. Laboratory of Behavioral Neurochemistry, Department of Psychology, Purdue University, Lafayette, Indiana Effects of intraperitoneal injections of lithium chloride on the entry of radioactive carbon atoms of glucose and amino acids into mouse brain and other tissues. *Archives Internationales de Pharmacodynamie et de Therapie (Gent)*. 193(2):322-329, 1971.

Short term and long-term injections of lithium chloride increased significantly the entry of carbon atoms of radioactive glucose into the brains and livers of mice, but exerted no effects on their entry into heart, skeletal muscle, or adipose tissue. Injections of lithium chloride decreased the entry of radioactive carbon of lysine, but did not affect that of aspartate and glycine, into brain. In

liver, injections of lithium chloride increased the entry of radioactive carbon of aspartate, decreased that of glycine, and did not affect that of lysine. Calculations showed that, in 30 min, brain contained 5.1, 6.7, and 9.5 times more of the injected glucose (in moles) than of injected lysine, aspartate, and glycine, respectively. Treatment of animals with insulin produced effects quite opposite to those produced by lithium chloride; entry of carbon atoms of glucose into heart occurred more rapidly, while their entry into brain and liver was decreased markedly. It is suggested that the increased entry of glucose carbon atoms into the brain produced by lithium injections may be related to its therapeutic action. 10 references. (Author abstract)

**106526** Lippmann, W. Department of Biochemical Pharmacology, Ayerst Laboratories, Montreal, Quebec, Canada Aspects of the gastric acid antiseecretory activity of 3,3-dimethyl-1-(3-methylaminopropyl)-1-phenylphthalan: a blocker of norepinephrine uptake. *Archives Internationales de Pharmacodynamie et de Therapie (Gent)*. 193(2):340-356, 1971.

Lu 3-010 administered perorally, inhibited basal gastric acid secretion, being 4 times more potent than imipramine, and also inhibited induced gastric acid secretion in the rat. The inhibition of basal gastric acid secretion was still observed when Lu 3-010 was administered (p.o.) 2 hr prior to ligation. Lu 3-010 (i.p.) inhibited pentagastrin induced gastric acid secretion in a dose dependent manner. Lu 3-010 also prevented histamine and reserpine induced gastric acid secretion and reserpine induced ulcers. A structure activity relationship of the effect of analogues of Lu 3-010 on basal gastric acid secretion was determined. The inhibitor of norepinephrine synthesis, alpha-methyltyrosine, prevented the inhibition of basal gastric acid secretion by Lu 3-010 but not by imipramine or atropine; the blocker was reversed by dihydroxyphenylalanine. With respect to the blocker of norepinephrine uptake, Lu 3-010, newly synthesized norepinephrine appears to be of importance for the gastric acid antiseecretory activity. 55 references. (Author abstract)

**106527** Shah, N.S. William S. Hall Psychiatric Institute, Columbia, S.C. 29202 A comparative study on the metabolism of 3,4-dimethoxyphenylethylamine-C14 and mesacaline-C14 by rabbit, mouse and rat brain homogenates. *Archives Inter-*

*nationales de Pharmacodynamie et de Therapie (Gent)*. 193(2):357-361, 1971.

The oxidative deamination of 3,4-dimethoxyphenylethylamine (DMPEA) and mescaline by brain homogenates of rabbit, mouse, and rat was studied using radiolabelled compounds and a new analytical technique employing ion exchange resin for the separation of amines from the metabolites. The brain homogenates of the 3 species of rodents were highly active in the oxidative deamination of DMPEA as compared to that of mescaline. Iproniazid in a concentration of .001M effectively blocked the deamination of DMPEA but not that of mescaline. Semicarbazide (.001M), on the other hand, exerted no inhibition on the metabolic transformation of DMPEA and mescaline. 13 references. (Author abstract)

**106847** Ahtee, Liisa; Saarnivaara, Laila. Dept. of Pharmacology, University of Helsinki, Siltaavuorenpenger 10, Helsinki 17, Finland The effect of pethidine on the 5-hydroxytryptamine and 5-hydroxyindoleacetic acid content of the mouse brain. *Journal of Pharmacy and Pharmacology (London)*. 23(11):887-889, 1971.

The effect of pethidine on the 5-hydroxytryptamine (5-HT) and 5-hydroxyindoleacetic acid (5-HIAA) content of mouse brain in vivo, is reported. Drugs were injected in 0.1ml/10g and controls injected with similar amounts of saline. Contents of 5-HT and 5-HIAA were estimated in the same tissue sample spectrophotofluorimetrically. Pethidine alone did not alter the concentration of brain 5-HT or 5-HIAA. Probenecid (200mg/kg) increased the 5-HIAA content in the brain of the saline and pethidine treated mice. But the increase in the brain 5-HIAA content was statistically significantly higher in the control group. At least some actions of pethidine could be mediated by alterations of the brain 5-HT content. Evidence shows that the toxic reactions of pethidine when combined with monoamine oxidase inhibitors are at least partially due to increased 5-HT concentrations in the mouse brain. 24 references.

**106909** Papeschi, R. Laboratory of Chemical Neurobiology, Allan Memorial Institute of Psychiatry, McGill University, Montreal, Quebec, Canada Alpha-methyltryptophan increases 5-hydroxytryptamine-like material in rat brain. *Journal of Pharmacy and Pharmacology (London)*. 23(11):879-881, 1971.

Alpha-methyltryptophan (AMTP) and its effect on the increase of 5-hydroxytryptamine, (5-HT), like material in the rat brain were studied by their fluorescence in 3 N HCl in a spectrophotofluorometer. The material estimated as 5-HT in this method was significantly increased by over 50%. The increase of 5-HT like material occurs in the brain only; AMTP significantly decreases 5-HT in the small intestine of the rat 16 hours after the injection. Because of the possibility that AM-5-HT formed from AMTP acts as a false neurotransmitter, and because the synthesis of true 5-HT may be decreased after AMTP, the effects of repeated injections of AMPT were observed. Motor behavior was tested with the vertical wire and 4 corks tests; rectal temperature was recorded with an electronic thermometer. No significant alteration of social or motor behavior was observed at any time after AMTP, despite the changes in 5-HT metabolism noted, and no sedation was apparent. 8 references.

**106911** Hoyer, I.; van Zwieten, P.A. Dept. of Pharmacology, Christian-Albrechts-University, 23 Kiel, West Germany The centrally induced fall in blood pressure after the infusion of amphetamine and related drugs into the vertebral artery of the cat. *Journal of Pharmacy and Pharmacology (London)*. 23(11):892-893, 1971.

Amphetamine (50 micrograms per kilogram) caused an acute and pronounced fall in blood pressure (approximately 20 millimeters Hg) when injected in the left vertebral artery in cats of either sex. A higher dose (150 micrograms per kilogram) decreased the blood pressure by approximately 35% of its control value after infusion into the vertebral artery. The effects were confirmed in at least 6 cats for each dose. The decrease in peripheral sympathetic tone, initiated by the stimulation of central alpha-adrenoceptors, seems to be a general principle which would apply to all drugs with central sympathomimetic properties when applied via a central route of administration; clonidine has been the most potent drug in this context. The central hypotensive properties of alpha-methyldopa, L-dopa, and m-tyrosine might also be explained by such mechanism. 9 references.

**106920** Schatz, R.A.; Lal, H. College of Pharmacy, University of Rhode Island, Kingston, Rhode Island 02881 Elevation of brain GABA by pargyline: a possible mechanism for protection against

oxygen toxicity. *Journal of Neurochemistry*. 18(12):2553-2555, 1971.

Since decreased levels of aminobutyric acid (GABA) have been implicated in the etiology of OHP (oxygen under high pressure) convulsions, the effect in the mouse of pargyline on OHP convulsions in relation to its effect on brain GABA was investigated. Pargyline caused an elevation of brain GABA in normal mice and prevented the decline in GABA induced by oxygen under high pressure. The results suggest that the protective effect of pargyline against oxygen toxicity may be a consequence of its ability to prevent the OHP induced decrease in brain GABA. 6 references.

**106922** Baldessarini, R.J.; Vogt, Marcella. Laboratory of Neuropsychopharmacology, Massachusetts General Hospital, Boston, Mass. The uptake and subcellular distribution of aromatic amines in the brain of the rat. *Journal of Neurochemistry*. 18(12):2519-2533, 1971.

The uptake and subcellular distribution of aromatic amines in rat brain was studied in order to investigate the possibility that certain aromatic amines which can accumulate during hepatic coma may enter central catecholamine containing nerve endings and compete there with the normal transmitters for storage sites. The hydroxylated phenylethylamines, p-tyramine, m-tyramine, octopamine, metaraminol and norepinephrine, were accumulated by homogenates of rat brain much more vigorously than beta-phenethylamine or amphetamine. The uptake of these 3 hydroxylated compounds was much more vigorous in striatal tissue than in cortical tissue, and in both tissues the rate of uptake decreased in the sequence: norepinephrine, tyramine, octopamine. The uptake of norepinephrine and octopamine appeared to require sodium ion. Pretreatment of rats with reserpine or 6-hydroxydopamine decreased the ability of brain to take up norepinephrine or octopamine. Previously accumulated labelled phenylethylamines migrated in sucrose density gradients with a peak of radioactivity corresponding to an equilibrium position of catecholamine containing nerve endings. The magnitude of the retention of tritiated amine in this synaptosomal peak decreased in the order: norepinephrine, octopamine, tyramine. The accumulated amines were released by sonic, osmotic and thermal stresses which disrupt neuronal membranes. The presence of a beta-hydroxyl group appeared to

protect amines from destruction by monoamine oxidase, presumably by virtue of uptake in presynaptic storage vesicles. During superfusion, tyramine and metaraminol appeared to displace tritiated norepinephrine from binding sites in brain slices. 45 references. (Author abstract modified)

**107045** Wallach, M.B.; Gershon, S. Neuropsychopharmacology Research Unit, New York University Medical Center, New York, New York 10016 A neuropsychopharmacological comparison of d-amphetamine, L-DOPA, and cocaine. *Neuropharmacology* (Oxford, England). 10(6):743-752, 1971.

In a neuropsychopharmacological comparison of d-amphetamine, L-DOPA and cocaine cats were chronically implanted with bipolar subcortical and monopolar cortical electrodes. The EEG, reticular formation multiple unit activity and gross behavior were monitored. The effects of acute intraperitoneal administration of d-amphetamine, L-DOPA, cocaine, p-hydroxyamphetamine (4mg/kg), following hydrazino-alpha-methyldopa (25mg/kg) pretreatment were observed. All agents except the p-hydroxyamphetamine induced a desynchronized EEG, increased the multiple unit activity of the reticular formation, and elicited stereotyped behavior. L-DOPA elicited more pronounced adrenergic peripheral effects than did either d-amphetamine or cocaine. These included piloerection and salivation. In the presence of hydrazino-alpha-methyldopa, L-DOPA elicited salivation while the p-hydroxyamphetamine alone elicited only piloerection without salivation. Clinically, amphetamine and cocaine induce a psychotic state resembling schizophrenia of the paranoid type, while the hallucinogens elicit primarily perceptual distortions. Thus, it would appear that there are 2 distinct classes of psychotomimetic agents. The use of L-DOPA in treating patients suffering from Parkinsonism must be viewed with caution if the animal data can be extrapolated to man. Some preliminary reports of psychotic behavior following the administration of high doses of L-DOPA have appeared. 36 references. (Author abstract modified)

**107046** Von Voigtlander, P.F.; Moore, K.C. Department of Pharmacology, Michigan State University, East Lansing, Michigan 48823 The release of 3H-dopamine from cat brain following electrical stimulation of the substantia nigra and caudate nucleus. *Neuropharmacology* (Oxford, England). 10(6):733-741, 1971.

After the intraventricular injection of 3H dopamine, the cerebroventricular system of cats with spinal sections was perfused with artificial cerebrospinal fluid. Electrical stimulation of the caudate nucleus increased the perfusate concentration of 3H dopamine, but not of 3H 3-methoxytyramine. After the intraventricular injection of 14C-urea, similar stimulation did not increase the efflux of this substance. When the substantia nigra pars compacta was stimulated the efflux of both 3H dopamine and 3H 3-methoxytyramine was increased; the amount of 3H dopamine released was dependent upon the intensity and frequency of the stimuli. 24 references. (Author abstract modified)

**107121** Stratten, W.P.; Barnes, C.D. Department of Pharmacology, Medical Research Laboratories, Pfizer, Inc., Groton, Connecticut 06340 Diazepam and presynaptic inhibition. *Neuropharmacology* (Oxford, England). 10(6):685-696, 1971.

The influence of diazepam upon the spinal cord in cats is clarified. Certain spinal reflex alterations previously attributed to diazepam are influences of the vehicle used. Enhancement of presynaptic inhibition is the only spinal reflex activity found to result from the administration of diazepam. Inhibitory influences of diazepam are found to be directly related to the primary afferent depolarization, with no indication of postsynaptic influence. Picrotoxin and diazepam seem to act as antagonists at the same loci responsible for primary afferent depolarization. The spinal influence of diazepam is not mediated or altered by higher central nervous system (CNS) structures. The doses required for spinal influence are comparable to those used in studies on the higher CNS. 28 references. (Author abstract modified)

**107123** Uzunov, P.; Weiss, B. Laboratory of Preclinical Pharmacology, NIMH, Saint Elizabeth's Hospital, Washington, D.C. 20032 Effects of phenothiazine tranquilizers on the cyclic 3',5'-adenosine monophosphate system of rat brain. *Neuropharmacology* (Oxford, England). 10(6):697-708, 1971.

The effects of phenothiazine tranquilizers on the concentration of cyclic 3',5'-adenosine monophosphate (AMP) in rat brain in vivo, on the norepinephrine induced increase of cyclic 3',5'-AMP in brain slices, and on the activities of the enzymes (adenyl cyclase and phosphodiesterase) responsible for the formation and hydrolysis of cyclic 3',5'-AMP, were examined. Norepinephrine

increased the concentration of cyclic 3',5'-AMP in brain slices about twofold. Trifluoperazine and chlorpromazine inhibited this norepinephrine induced accumulation of cyclic 3',5'-AMP without affecting its basal concentration. Trifluoperazine was more active than chlorpromazine, and the sulfoxide metabolites of these compounds and promethazine had no effect. In pineal gland homogenates, norepinephrine increased adenylyl cyclase activity 2 to 3 fold. Trifluoperazine inhibited this norepinephrine induced activation of adenylyl cyclase to a greater extent than it did the basal enzyme activity. Again trifluoperazine was more effective than was chlorpromazine, promethazine was a weak inhibitor, and trifluoperazine sulfoxide and chlorpromazine sulfoxide produced almost no inhibition of pineal adenylyl cyclase activity. Trifluoperazine inhibited phosphodiesterase activity of rat cerebrum and brain stem more effectively than it did the enzyme of cerebellum. It was concluded that the relative effectiveness of these phenothiazine derivatives in inhibiting the activated cyclic 3',5'-AMP system of rat brain correlates well with their relative potencies as tranquilizers. 29 references. (Author abstract modified)

107158 Marcucci, F.; Mussini, E.; Guaitani, A.; Fanelli, R.; Garattini, S. Istituto di Ricerche Farmacologiche, 'Mario Negri,' Via Eritrea, 62, 20157 Milan, Italy Anticonvulsant activity and brain levels of diazepam and its metabolites in mice. *European Journal of Pharmacology (An International Journal)* (Amsterdam). 16(3):311-314, 1971.

The antipentetrazol and anticonvulsant activity of diazepam and its metabolites were investigated in mice. The i.p.LD50 and the i.v.ED50 against pentetrazol were determined for diazepam, N-demethyldiazepam, N-methyloxazepam and oxazepam. After administration of the ED50, the brain concentrations of these benzodiazepines were related to the brain levels of the injected drug only at 5 min. At later times, the effect was related to the brain levels of the metabolites; this was particularly true of oxazepam, the benzodiazepine with the best therapeutic index. 7 references. (Author abstract modified)

107160 Vargaftic, B.B.; Coignet, J.L.; de Vos, C.J.; Grijzen, H.; Bonta, I.L. Service de Recherches Pharmacologiques, Organon S.A., Eragny-sur-Epte, 60, France Mianserin hydrochloride: peripheral and central effects in

relation to antagonism against 5-hydroxytryptamine and tryptamine. *European Journal of Pharmacology (An International Journal)* (Amsterdam). 16(3):336-346, 1971.

Mianserin hydrochloride, a new anti-5-hydroxytryptamine agent, was compared with cyproheptadine with respect to a variety of responses evoked by 5-hydroxytryptamine (5-HT) and other agonists. Central effects against tryptamine responses and general depressant effect on CNS were also studied. The 2 antagonists induced comparable inhibition against responses in which D-receptors of 5-HT were involved. Mianserin displayed alpha-adrenolytic activity and did not antagonize muscarinic effects of acetylcholine; the opposite was true for cyproheptadine. Mianserin was more effective than cyproheptadine in counteracting tryptamine induced responses in rabbits and rats. Cyproheptadine produced diffuse depression of the CNS, with marked elevation of the threshold to electric stimulation of the brain stem reticular system in rabbits, persistent block of the acoustic arousal in rats and rabbits and prolongation of barbiturate sleep in rats. Mianserin did not produce CNS depression, other than transient inhibition of the sensory activation of the EEG in rabbits. The earlier postulated structure - activity relationship between mianserin and cyproheptadine does not appear to apply to effects other than certain 5-HT responses and central tryptamine effects. 18 references. (Author abstract)

107161 Berkowitz, Barry A.; Spector, Sydney. Pharmacology Section, Dept. of Physiological Chemistry, Roche Institute of Molecular Biology, Nutley, N.J. 07110 The effect of caffeine and theophylline on the disposition of brain serotonin in the rat. *European Journal of Pharmacology (An International Journal)* (Amsterdam). 16(3):322-325, 1971.

The influence of caffeine and theophylline on the disposition of brain serotonin was investigated. Single or multiple doses of caffeine increased the concentration of brainstem serotonin (40-100%) in the rat. Caffeine also increased the concentration of 5-hydroxyindole acetic acid in the brain, indicating that caffeine did not prevent serotonin deamination by monoamine oxidase. The effects on serotonin metabolism in the central nervous system were apparently not secondary to effects of caffeine on body temperature or behavior. The decline of brain serotonin elicited

by an inhibitor of serotonin synthesis, parachlorophenylalanine, was prevented by the concomitant administration of caffeine or higher doses of theophylline. Either caffeine prevents the release of brain serotonin or is able to increase serotonin synthesis. 17 references. (Author abstract modified)

**107193** Street, Denise M.; Farmer, J.B.; Roberts, D.J. Department of Pharmacology, Laboratorios Almirall, S.A., Cardoner 68-74, Barcelona 12, Spain The influence of pargyline on the effects of in vitro dopamine infusions in the cat spleen. *European Journal of Pharmacology (An International Journal)* (Amsterdam). 16(3):374-379, 1971.

Infusions of dopamine into cat isolated perfused spleen preparations caused contractions of the capsule and increased the perfusion pressure. The infusions generally resulted in reduction of the responses of the spleen to nerve stimulation, but these reductions appeared not to be accompanied by a consistent decrease in the amount of noradrenaline released in response to nerve stimulation. Pretreatment of cats with the monoamine oxidase inhibitor pargyline hydrochloride failed to potentiate either the sympathomimetic effects of the in vitro dopamine infusions or their effects in reducing the response of the spleen to nerve stimulation. Transmitter overflow also appeared to be unaffected by pargyline treatment. However, there was a 2 fold increase in the accumulation of the infused dopamine in the spleens from pargyline-treated cats. The results are discussed in the context of the hypothesis suggesting the involvement of dopamine as a false neurochemical transmitter in the antihypertensive effects of monoamine oxidase inhibitors. 16 references. (Author abstract modified)

**107194** Schwartz, Jean-Charles; Pollard, Helene; Bischoff, Serge; Rehault, Marie Claude; Verdier-Sahuque, Martine. Laboratoire de Biochimie, Hopital Broca, Paris 13, France Catabolism of 3H-histamine in the rat brain after intracisternal administration. *European Journal of Pharmacology (An International Journal)* (Amsterdam). 16(3):326-335, 1971.

The fate of 3H-histamine of high specific activity was studied after its administration into the cisterna magna or into the lateral ventricle of rats. 3H-histamine metabolites were analyzed by a combination of methods involving ion exchange and thin layer chromatography, solvent extraction

and isotope dilution. Histamine catabolism occurred mainly, if not solely, through ring-methylation followed by deamination into methylimidazole acetic acid, which was found to be the main catabolite. This last step was inhibited in tranlycypromine-treated rats, resulting in a marked rise in brain 3H-methylhistamine. Partial inhibition of histamine methylation was achieved by administration of methylhistamine in high doses and resulted in a slower disappearance of 3H-histamine; it also induced a prompt increase in the level of endogenous histamine, suggesting a high turnover rate for the brain amine. Deamination of 3H-methylhistamine occurred more slowly in the newborn than in the adult rat brain, probably in relation with incomplete development of monoamine oxidase activity. If present, direct oxidative deamination of histamine was a minor pathway, as evidenced by the low 3H-imidazole acetic formation as well as by the slight effects of aminoguanidine treatment, both on 3H-histamine catabolism and on endogenous amine level. The efflux of 3H-deaminated metabolites from brain was not modified by treatment with probenecid. 33 references. (Author abstract)

**107719** Vinogradov, V.V.; Krylov, S.S. author address not given /The role of central M-cholinoreactive systems in the development of food motor conditioned reflexes./ Rol' tsentral'nykh M-kholinoreaktivnykh sistem v vyrobotte pishchevykh dvigatel'nykh uslovykh reflektsov. *Byulleten' Eksperimental'noi Biologii i Meditsiny* (Moskva). 72(10):58-61, 1971.

In conditions of complete blockage of central M-cholinoreactive systems induced by benactizine in doses of 5 and 40mg/kg, the development of food motor conditioned reflexes in rats is impossible. In cases of incomplete blockage (1mg/kg) or deblocking (5-5 1/2 hours after the administration of benactizine in a dose of 40mg/kg), the training is possible but delayed. The introduction of galantamine (2.5mg/kg) weakens the effect of benactizine on teaching. Blockage of central N-cholino- and adrenoreactive systems as well as suppression of the function of serotonergic systems by injection of pediphen, haloperidol, and parachlorophenylalanine, respectively, have no essential importance for the process of memory formation. It is assumed that disturbance of teaching is associated with the influence of benactizine on short-term memory. In complete blockage of M-

cholinoreceptors, the animals were capable of retaining the required information. 22 references. (Author abstract)

107720 Vtiurin, B.V.; Tymanov, V.P. Institut khirurgii imeni A.V.Vishnevskogo AMN SSSR, Moscow, USSR /The ultrastructure of the synaptic apparatus following introduction of phenamine and haloperidol./ Ul'trastruktura sinapticheskogo apparata posle vvedniya fenamina i galoperidola. *Byulleten' Eksperimental'noi Biologii i Meditsiny (Moskva)*. 72(10):108-110, 1971.

The ultrastructure of neurons of the motor zone of the rat cerebral cortex was studied following a single injection of phenamine and haloperidol. After the administration of phenamine, signs of increased functional activity of the neuron were noted, including activation of the synaptic apparatus, increase in the number of pores of the nuclear membrane, widening of the cavities of the endoplasmic reticulum, and swell of mitochondria. Under the effect of haloperidol, an absence of signs of activation of synapses and an increased density of the mitochondrial matrix were observed. 8 references. (Author abstract modified)

107722 Bondarenko, T.T. Tsentral'nyi nauchno-issledovatel'skii institut sudebnoi psikiatrii imeni Serbskogo Ministerstva zdravookhraneniya SSSR, Moscow /The influence of lysergic acid diethylamide on the activity of solitary neurons of some cerebral regions./ Vliyaniye dietilamida lizerginoyi kisloty na deyatel'nost' odinochnykh neuronov nekotorykh otdelov golovnogo mozga. *Byulleten' Eksperimental'noi Biologii i Meditsiny (Moskva)*. 72(10):53-55, 1971.

Experiments conducted with male white rats have shown that the frequency of background impulsion of rat midbrain reticular neurons is approximately 3 times higher than that of hippocampal neurons. Under the effect of lysergic acid diethylamide (LSD-25) in a subcutaneous dose of 0.5mg/kg, the background rhythmicity of neurons of these cerebral regions changes, a fact which indicates a specific sensitivity to LSD-25 may be manifested both by activation and inhibition of impulse activity. No relationship between the character of the reaction of neurons to LSD-25 and their background impulsion was observed. 7 references. (Author abstract modified)

107723 Snegirev, E.A. author address not given /The influence of amizyl and diphacyl on processes

of capture and discharge of norepinephrine./ Vliyaniye amizila i difatsila na protsessy zakhvata i vysvobozhdeniya noradrenalina. *Byulleten' Eksperimental'noi Biologii i Meditsiny (Moskva)*. 72(10):55-58, 1971.

Experiments conducted with isolated hearts of rabbits and cats have demonstrated that benactizine and diphacyl (20mg/l) reduce the percentage of capture of endogenous norepinephrine by heart tissue to the same degree. Studies of the effect of these agents on processes of discharge of endogenous norepinephrine from tissues of the isolated cat heart showed that only benactizine caused a discharge of the amine into the fluid perfusing the heart, whereas diphacyl did not discharge endogenous norepinephrine. 13 references. (Author abstract modified)

107725 Gulidova, G.P. Laboratoriya obshchei patofiziologii, Institut psikiatrii AMN SSR, Moscow, USSR /Influence of psychotomimetic substances on the energetic metabolism of brain mitochondria./ Vliyaniye psikhotomimicheskikh veshchestv na energeticheskii obmen mitokhondrii mozga. *Zhurnal Nevropatologii i Psikiatrii imeni S.S.Korsakova (Moskva)*. 71(11):1700-1704, 1971.

The influence of sernil and lysergic acid diethylamide-25 (LSD-25) on the oxidative and phosphorylation processes in the cortical mitochondria and nuclei of the cat mesencephalon was investigated by the polarographic method. Succinate was used as a substrate of oxidation in experiments with LSD-25, and succinate and sodium glutamate, in experiments with sernil. It was established that both substances decrease the intensity of oxidation and phosphorylation when sodium succinate is the substrate of oxidation. Unlike LSD-25, sernil also decreases the conjugation of oxidation with phosphorylation when both substrates of oxidation are used. The cortical mitochondria of the large hemispheres are distinguished by their greater sensitivity to the action of sernil as compared with mitochondria in the nuclei of the mesencephalon. 23 references. (Author abstract modified)

107726 Saratikov, A.S.; Samoilov, N.N.; Subbotin, V.F.; Kuklenko, V.G.; Pilipenko, Iu.A. Tomskii meditsinskii institut, Tomsk, USSR /Distribution in the organism and the elimination of lithium./ Raspredeleniye v organizme i eliminatsiya litia. *Zhurnal Nevropatologii i Psikiatrii imeni S.S.Korsakova (Moskva)*. 71(11):1709-1712, 1971.

The accumulation of lithium following a single administration of its salts to white mice and white rats in dosages ranging from 1/3 to 1 LD50 is most expressed in the kidneys and then, in order of declining magnitude, in the heart, lungs, spleen, muscles, liver, and brain. The study of the dynamics of lithium elimination from tissue testified to its selection retention in the brain. The route of administration, dosage, and anion type of lithium salts do not essentially affect the nature of its distribution and accumulation in the organism or its elimination. 12 references. (Author abstract modified)

**107865** Cohen, G.M.; Peterson, D.W.; Mannering, G.J. Dept. of Pharmacology, Univ. of Minnesota, Medical School, Minneapolis, Minn. 55455 Interactions of delta(9)-tetrahydrocannabinol with the hepatic microsomal drug metabolizing system. *Life Sciences*. 10(21):1207-1215, 1971.

Delta(9)-Tetrahydrocannabinol (delta(9)-THC) was shown to combine with hepatic microsomes from both untreated and phenobarbital (Pb) treated male rats to give a typical type I difference spectrum. The affinity of the microsomes for delta(9)-THC was very high, as reflected by the spectral dissociation constant ( $K_s$ ) values for microsomes from untreated and Pb treated animals. Delta(9)-THC inhibited competitively the microsomal metabolism of ethylmorphine, a typical type I substrate. The inhibitor constant ( $K_i$ ) value obtained with untreated animals was very low. These studies support the view that delta(9)-THC is metabolized by the hepatic mixed function oxidase system involving cytochrome P-450. The high reactivity of delta(9)-THC with this system raises the possibility that delta(9)-THC may interfere with the biotransformation of other drugs in vivo. 21 references. (Author abstract modified)

**107944** Kemp, J.W.; Tannhauser, M.; Swinyard, E.A. Dept. of Pharmacology, Univ. of Utah, Salt Lake City, Utah Effect of diphenylhydantoin on hexobarbital sleep time in mice and rats. *Archives Internationales de Pharmacodynamie et de Therapie (Gent)*. 193(1):37-47, 1971.

A study of the effect of diphenylhydantoin on hexobarbital sleep time in mice and rats was made. The acute administration of diphenylhydantoin was shown to increase hexobarbital sleep time 263% and 69.8% in mice and rats, respectively. Diphenylhydantoin treatment decreased the

rate at which hexobarbital was cleared from the plasma and there was no significant difference in the plasma hexobarbital level of control and diphenylhydantoin treated rats at the time animals regained their righting reflex (awakened). In vitro studies demonstrated that pretreatment with diphenylhydantoin resulted in a 3.8fold inhibition of the microsomal enzymes that metabolizes hexobarbital in mice and a 2.7fold inhibition in rats. Diphenylhydantoin prolongs hexobarbital sleep time in mice and rats by decreasing the rate of hexobarbital metabolism in these 2 species. 10 references. (Author abstract modified)

**107945** Frey, H.-H.; Kretschmer, B.-H. Dept. of Pharmacology and Toxicology, School of Veterinary Medicine, Free Univ., Berlin, Germany Anticonvulsant effect of trimethadione in mice during continued treatment via the drinking water. *Archives Internationales de Pharmacodynamie et de Therapie (Gent)*. 193(1):181-190, 1971.

Anticonvulsant effects of trimethadione were studied in mice. Mice were continuously treated with trimethadione via the drinking water for periods from 6 hours to 7 days before the anticonvulsant effect was determined in the pentetrazole seizure threshold test. Treatment of 6 or 12 hours duration proved to be too short to provide protection. After 24 hours of treatment, an ED50 of 1.55g/kg trimethadione could be extrapolated. (the acute 1hED50 was determined to 470mg/kg orally). When the time of treatment exceeded 24 hours, only few animals were protected against the chemoseizures though the serum concentrations of anticonvulsant drug were 2 to 3 times higher than those affording protection in the acute experiment. The results demonstrate the development of tolerance to the anticonvulsant effect of oxazolidinediones. The metabolite dimethadione proved to be mainly responsible for the anticonvulsant effect with the exception of the acute experiment (1hED50) in which unchanged trimethadione accounted for about 3 fourths of the total effect. 11 references. (Author abstract modified)

**107959** Shah, N.S.; Himwich, H.E. William S. Hall Psychiatric Institute, Columbia, S.C. Study with mescaline-8-C14 in mice: effect of amine oxidase inhibitors on metabolism. *Neuropharmacology (Oxford, England)*. 10(5):547-556, 1971.

The levels of unchanged mescaline, N-acetylmescaline and 3,4,5-trimethoxyphenylacetic acid

were determined in the brain liver, plasma and urine of mice following the i.p. administration of mescaline-8-C14 and nonlabelled mescaline-SO4. Pretreatment of mice with either iproniazid or tranlycypromine had no significant effects on these levels in brain but considerably diminished the level of 3,4,5-trimethoxyphenylacetic acid and elevated that of N-acetylmescaline in liver. The patterns of distribution of metabolites in the plasma and urine of mice pretreated with iproniazid or tranlycypromine paralleled those in liver. Semicarbazide was without effect. In vitro studies of slices from various brain regions, of whole brain homogenate and of various subcellular fractions revealed that from 2 to 8% of added mescaline could be oxidatively deaminated to 3,4,5-trimethoxyphenylacetic acid; these findings yielded no evidence of N-acetylation of mescaline. 15 references. (Author abstract)

**107961** Lidbrink, P.; Jonsson, G.; Fuxe, K. Department of Histology, Karolinska Institutet, S-104 01 Stockholm, Sweden The effect of imipramine-like drugs and antihistamine drugs on uptake mechanisms in the central noradrenaline and 5-hydroxytryptamine neurons. *Neuropharmacology (Oxford, England)*. 10(5):521-536, 1971.

The effect of antidepressant drugs of the imipramine type and of the antihistamine drugs chlorpheniramine and brompheniramine on the amine uptake - accumulation mechanism of the central noradrenaline (NA) and 5-hydroxytryptamine (5-HT) neurons were studied in vivo and in vitro in the rat. The in vitro experiments were performed on isolated nerve ending particles following the uptake and accumulation of tritiated NA and 5-HT in the presence of the psychoactive drugs in the incubation medium. The in vivo experiments were analyzed by a fluorescence histochemical method for NA and 5-HT and involved an examination of the effect of the psychoactive drugs on the uptake and accumulation of intraventricularly administered NA or 5-HT and of the accumulation of endogenously synthesized 5-HT after monoamine oxidase inhibition in rats pretreated with reserpine. Results support the view that tertiary amines of the imipramine type of drugs, such as amitriptyline, imipramine and chlorimipramine, preferentially block 5-HT uptake in the central 5-HT neurons, whereas secondary amines of the imipramine type, such as desipramine, preferentially block NA uptake in the central NA neurons. Functional

studies using the extensor and flexor reflex model to evaluate the influence on 5-HT and NA receptor activity, by the psychoactive drugs further support this view. Thus, the antidepressant action of these drugs may be related to their ability to increase 5-HT receptor activity by blocking 5-HT reuptake. The antihistamine drugs, chlorpheniramine and especially brompheniramine, were found to be very potent blockers of 5-HT uptake as revealed both chemically and functionally. They also had, in contrast to the imipramine-like drugs of the tertiary amine type, a potent blocking action on NA reuptake in the central NA neurons. Drugs with these properties may be of new importance in the management of mental depression. 47 references. (Author abstract)0

**107962** Avanzino, G.L.; Ermirio, Rosa; Zummo, C. Istituto di Fisiologia Umana dell'Universita di Genova, Italy Effects of microiontophoretic application of imipramine on single neurones in the brain stem. *Neuropharmacology (Oxford, England)*. 10(5):661-664, 1971.

Imipramine (IMI) was applied by microiontophoresis to single neurones of the brain stem in guinea pigs under local anesthesia. The effects obtained were compared to those of noradrenaline (NA) applied microiontophoretically to the same neurone. The interaction of these 2 drugs was also studied. NA and IMI produced similar effects and a synergism between these 2 drugs was noted. These effects may be due to a blockade of the neurone uptake of NA by IMI. 8 references. (Author abstract)

**107963** Sigg, E.B.; Keim, K.L.; Kepner, K. Research Division, Hoffmann-LaRoche Inc., Nutley, New Jersey 07110 Selective effect of diazepam on certain central sympathetic components. *Neuropharmacology (Oxford, England)*. 10(5):621-629, 1971.

Of several sympathetic responses elicited in cats by electrical stimulation of the hypothalamus, diazepam (0.1-3mg/kg i.v.) selectively attenuated the vasopressor response. In contrast, pentobarbital (1-10mg/kg i.v.) in subanesthetic doses had a depressant effect on several evoked autonomic parameters. Chlorpromazine (0.1-1mg/kg i.v.), in addition to its known peripheral alpha-adrenergic blocking action, also reduced preganglionic sympathetic outflow. The conclusion is reached that the central sympathetic system is not homogenous

and may be selectively affected by different psychotropic agents. 14 references. (Author abstract modified)

**108280 Meltzer, Herbert.** Dept. of Psychiatry, Univ. of Chicago Pritzker School of Medicine, 950 East 59th St., Chicago, Ill. 60637 Chlorpromazine-induced hypothermia and increased plasma creatine phosphokinase activity. *Biochemical Pharmacology (Oxford)*. 20(8):1739-1748, 1971.

The rate of efflux of creatine phosphokinase (CPK) from rat extensor digitorum longus muscle in vitro was significantly less at 22 deg than at 30 deg. Chlorpromazine (Cpz) at comparatively large concentrations increased the efflux of CPK in vitro. In vivo, Cpz produced levels of CPK in plasma which were significantly correlated with the hypothermia that developed after the drug was administered. When the hypothermia subsequent to Cpz administration was blocked by keeping rats at 31 deg or by administering the drug to cold acclimated rats, no increase in plasma CPK levels developed. Cpz, 25mg/kg, produced a greater fall in body temperature and a greater increase in plasma CPK activity in rats kept at 2 deg than in rats kept at 22 deg. Cpz, given intramuscularly (i.m.) or intraperitoneally (i.p.) to rats kept at 22 deg produced equivalent increases in plasma CPK activity although the hypothermia following i.m. administration was slightly greater. Ganglionic blockade did not inhibit the increase in plasma CPK levels. Adrenalectomized rats did not differ from intact rats in the extent of increase in plasma CPK levels for a given degree of hypothermia. It is suggested that the increased plasma levels of CPK in vivo following Cpz in rats is due to the hypothermia produced by this drug rather than a direct toxic effect. In man, where IM Cpz does not produce hypothermia, the increased levels of CPK in plasma are probably due to the toxic effects of the drug, or its vehicle, on muscle. 27 references. (Author abstract modified)

**108281 Cohen, Gerald.** College of Physicians and Surgeons, Columbia Univ., New York 10032 Tetrahydroisoquinoline alkaloids in the adrenal medulla after perfusion with 'blood concentrations' of (14C)acetaldehyde. *Biochemical Pharmacology (Oxford)*. 20(8):1757-1761, 1971.

(14C)Tetrahydroisoquinoline alkaloids were formed in situ from epinephrine and norepinephrine in the medullae of isolated cow

adrenal glands during perfusions with solutions of (14C)acetaldehyde. The radioactive alkaloids were isolated by adsorption onto aluminum hydroxide; they were separated and identified by thin layer chromatography. The concentration of acetaldehyde used for perfusion (1 microgram/ml) corresponds to a blood level seen in man during ingestion of alcoholic beverages. 8 references. (Author abstract)

**108283 Iriye, Tom T.; Simmonds, Francis A.** VA Hospital, Northport, Long Island, N.Y. Effect of tranquilizers and antidepressants on glycogen phosphorylase of rat brain. *Biochemical Pharmacology (Oxford)*. 20(8):1889-1900, 1971.

Tranquilizers and antidepressants were investigated for their effect on the glycogen phosphorylase (alpha-1,4-glucan:orthophosphate glucosyltransferase) activity of rat brain after sacrificing the animal with liquid nitrogen. The tranquilizers consisted of reserpine and 4 phenothiazines. Isoreserpine and promethazine, both not considered tranquilizers, were included as controls. All tranquilizers except prochlorperazine depressed the phosphorylase activity. The controls did not affect the phosphorylase level. A tentative explanation for the lack of effect of prochlorperazine is given. The antidepressants consisted of: 2 monoamine oxidase inhibitors, pargyline and iproniazid; a tricyclic antidepressant, desmethylinipramine; and a psychic stimulant, amphetamine. The antidepressants acted counter to tranquilizers, that is, they enhanced the absolute or relative level of phosphorylase activity. However, the enhancing effect was best observed when rats were treated with reserpine before or after the drug. A unified explanation for the effect of most of both tranquilizers and antidepressants on the phosphorylase activity is given, based on a reasonable mode of action and a postulate stating that the phosphorylase activity is correlated with the availability of norepinephrine at the adrenergic receptor sites. These facts suggest that the phosphorylase activity of brain may be a barometer for CNS adrenergic activity. The results suggest that the glycogen phosphorylase of brain may be involved in actions of many drugs used as tranquilizers and antidepressants. 33 references. (Author abstract modified)

**108284 Davis, Leon F.; Gatz, Edward E.; Jones, John R.** Dept. of Surgery, Univ. of Nebraska College

of Medicine, Omaha, Nebr. 68105 Effects of chlordiazepoxide and diazepam on respiration and oxidative phosphorylation in rat brain mitochondria. *Biochemical Pharmacology (Oxford)*. 20(8):1883-1887, 1971.

The effects of chlordiazepoxide and diazepam on respiration and oxidative phosphorylation of succinate, pyruvate and alpha-ketoglutarate by rat brain mitochondria were investigated polarographically. Chlordiazepoxide and diazepam were each found to decrease respiration as evidenced from decreased state 3 and 2, 4-dinitrophenol stimulated state 4 oxygen uptake in the presence of the above 3 substrates. The decreases in state 3 and 2, 4-dinitrophenol stimulated state 4 rates were related to the added concentration of each drug. With respiratory control indices and ADP:O ratios as an index of oxidative phosphorylation, it is found that chlordiazepoxide and diazepam decreased oxidative phosphorylation which may be due in part to an increase in adenosine triphosphatase activity as evidenced from the increased rates of oxygen uptake during state 4. To achieve a given effect on the above mitochondrial functions, it was found that the concentration in vitro of chlordiazepoxide had to be 5 to 7 times greater than that of diazepam. 6 references. (Author abstract)

108286 Clay, G.A.; Cho, A.K.; Roberfroid, M. Dept. of Pharmacology, Bowman Gray School of Medicine, Winston-Salem, N.C. Effect of diethylaminoethyl diphenylpropylacetate hydrochloride (SKF-525A) on the norepinephrine-depleting actions of d-amphetamine. *Biochemical Pharmacology (Oxford)*. 20(8):1821-1831, 1971.

The effect of SKF-525A (diethylaminoethyl diphenylpropylacetate hydrochloride) on non-repinephrine depletion caused by amphetamine was examined. SKF-525A substantially reduced the depletion of cardiac norepinephrine caused by d- and l-amphetamine but had no effect on the depletion in the brain caused by d-amphetamine. The levels of d-amphetamine in both tissues were substantially elevated by SKF-525A while metabolite levels were reduced. Since SKF-525A was found to have no direct action on the nerve ending, the results suggest that the depleting actions of d-amphetamine on the heart and brain are different, and that the effect on the heart is due to one or more of the metabolites of d-amphetamine. 13 references. (Author abstract)

108287 Ridge, J.W.; Stanley, Helen M. Dept. of Biochemistry, Univ. of Queensland, St. Lucia, Brisbane, Queensland 4067, Australia Effect of phenelzine on the metabolism and membranal transport of glucose in brain. *Biochemical Pharmacology (Oxford)*. 20(8):1811-1819, 1971.

A colorimetric method for the estimation of phenelzine (beta-phenylethylhydrazine) based on its reaction with p-dimethylaminobenzaldehyde is presented. It was shown that in vivo phenelzine rapidly penetrated all regions of the brain. In vitro with glucose as substrate the drug inhibited the respiration of tissue slices from all regions of the brain; with pyruvate as substrate the inhibition was much weaker and slower to develop. It was concluded that the inhibition of respiration was due to the drug's reducing the permeability of the cell membrane to glucose, since the respiration of brain homogenates was not inhibited and that of slices was more resistant to the action of the drug when the glucose concentration in the medium was increased. It was also shown that phenelzine did not inhibit any of the enzymes of glycolysis nor did it react to any significant extent with any of the glycolytic intermediates. 18 references. (Author abstract)

108288 Kaul, C.L.; Grewal, R.S. CIBA Research Centre, Goregaon East, Bombay 63, India Release of catecholamine from the cat heart by some directly and indirectly acting sympathomimetic amines. *Biochemical Pharmacology (Oxford)*. 20(8):1787-1795, 1971.

The effect of various directly and indirectly acting sympathomimetic amines on the inotropic, chronotropic and release of noradrenaline was investigated on the isolated cat heart. Tyramine, ephedrine and metaraminol produced positive inotropic and chronotropic effects with simultaneous release of noradrenaline while amphetamine and dopamine were unable to release any significant amount of noradrenaline although they both produced marked cardiac effects. Amphetamine produces positive inotropic and chronotropic effects on cat heart depleted of catecholamines by low doses of reserpine, guanethidine and alpha-methyl tyrosine. It is therefore concluded that amphetamine has a direct effect on the heart and produces its cardiac effect by a different mechanism than that of tyramine. 20 references. (Author abstract)

**108289** Baldessarini, Ross J. Laboratory of Neuropsychopharmacology, Dept. of Psychiatry, Massachusetts General Hospital, Boston, Mass. 02114 Compounds antagonistic to norepinephrine retention by rat brain homogenates. *Biochemical Pharmacology (Oxford)*. 20(8):1769-1780, 1971.

Several compounds, either catechols, or amines with a phenyl-alkyl configuration or an approximation of it, diminished the ability of rat brain homogenates to retain in vitro, <sup>3</sup>H norepinephrine accumulated in brain tissues in vivo following intracisternal injection. Among the active compounds were several phenethylamine derivatives, including beta-phenethylamine, beta-phenylthanolamine, amphetamine, p-tyramine, and octopamine. Presence of a beta-hydroxyl group may increase activity somewhat. An aliphatic side chain of 2 or 3 carbons was important for activity of aromatic amines. Also active were serotonin, several catecholamines, and 6-hydroxy-dopamine, as well as the catechol amino acid, L-DOPA. Deaminated catechols, including dihydroxymandelic acid and dihydroxyphenylacetic acid were active at higher concentrations only. Catechols were inactivated by O-methylation. Certain nonaromatic cyclic amines, including amantadine, were active. Aliphatic amines and omega-hydroxyl-amines of appropriate carbon chain length had some activity. Acetylcholine (with eserine) was inactive. That the active compounds may have significant central nervous system actions based partially on their ability to interfere with catecholamine reuptake or storage, is suggested. 37 references. (Author abstract modified)

**108290** Gigon, Philippe L.; Bickel, Marcel H. Pharmazeutisches Institute, Univ. of Berne, 3000 Berne, Switzerland N-demethylation and N-oxidation of imipramine by rat and pig liver microsomes. *Biochemical Pharmacology (Oxford)*. 20(8):1921-1931, 1971.

Factors influencing the in vitro metabolism of imipramine (IP) to desmethylimipramine (DMI) and to imipramine-N-oxide (IPNO) by rat and pig liver microsomes were studied. Varying the components of the incubation mixture, incubating IP in the presence of inhibitors and using microsomes from phenobarbital treated rats was used to differentiate the N-demethylation and N-oxidation pathway. Incubations were carried out over different time periods to show differences respective to the amount of DMI and IPNO

formed. Results are discussed with particular reference to the effect of magnesium ion on the metabolism of the drug. 31 references.

**108395** Morselli, P.L.; Gerna, M.; Garattini, S. Istituto di Ricerche Farmacologiche 'Mario Negri,' Via Eritrea 62, 20157 Milan, Italy Carbamazepine plasma and tissue levels in the rat. *Biochemical Pharmacology (Oxford)*. 20(8):2043-2047, 1971.

A procedure for determining carbamazepine in biological specimens both from animals and humans is described. Carbamazepine was found to enter the brain relatively rapidly and its distribution is uniform through the body. In animals absorption and tissue distribution was found to be influenced to a certain extent by the vehicle employed. A clear correlation between the brain levels and the protection towards maximal electroshock was observed. Preliminary data on humans suggest a relatively slow absorption. An oral dose of 6mg/kg gives plasma levels comparable to the ones obtained after an administration of 400mg/kg in rats. 9 references. (Author abstract)

**108396** Kwant, W.O.; Seeman, P. Dept. of Pharmacology, Univ. of Toronto, Toronto 5, Canada Chlorpromazine adsorption to brain regions. *Biochemical Pharmacology (Oxford)*. 20(8):2089-2091, 1971.

A study to determine whether differences in tissue affinity for chlorpromazine (CPZ-) could cause distribution patterns for the drug is reported. Four areas of the cat brain were dissected and their affinity for CPZ- was determined. Results show that CPZ- readily adsorbs or desorbs to homogenates and slices of 4 regions of the brain with equal affinity. Observed differences in CPZ- uptake by different brain regions in vivo must result from different permeability properties of the blood-brain barrier to CPZ-. CPZ- action may be directly related to the amount present in any 1 brain region. 19 references.

**108398** Hucker, H.B.; Michniewicz, B.M.; Rhodes, R.E. Merck Institute for Therapeutic Research, West Point, Pa. 19486 Phenylacetone oxime -- an intermediate in the oxidative deamination of amphetamine. *Biochemical Pharmacology (Oxford)*. 20(8):2123-2128, 1971.

The nature of the intermediate formed during oxidative deamination of amphetamine by the rabbit liver microsomal system, was examined. Amphetamine is converted by rabbit liver in vitro

to phenylacetone oxime, which in turn is enzymatically hydrolyzed to phenylacetone and then reduced to phenyl-2-propanol. The alcohol, previously shown to be a urinary metabolite of amphetamine, is partially oxidized to phenylacetone. Phenylacetone oxime is the intermediate formed during deamination of amphetamine and of one other compound, an alpha substituted benzylamine. It is suggested that the oxime may be the common intermediate for all amino compounds which are metabolized by oxidative deamination. 6 references.

**108399** Norn, S.; Shore, P.A. Dept. of Pharmacology, Univ. of Texas, Southwestern Medical School, Dallas, Tex. 75235 Failure to affect tissue reserpine concentrations by alteration of adrenergic nerve activity. *Biochemical Pharmacology (Oxford)*. 20(8):2133-2135, 1971.

A study to determine if reserpine bound in adrenergic nerve terminals might be released by adrenergic nerve activity is reported. Results indicate that most if not all of bound reserpine is localized in the adrenergic nerve terminal, presumably at the amine storage granules, since the action of the drug is manifested there. It is suggested that reserpine is bound to the granule membrane, which is not released by neural stimulation and where the drug persists for the remainder of the life span of the granule membrane. 8 references.

**108522** Shaw, William V. Department of Medicine, University of Miami School of Medicine, Miami, Florida Biochemical mechanisms of transferable drug resistance. In: Garattini, S., *Advances in pharmacology and chemotherapy*. New York Academic Press, 1971. 357 p.(p.131-172), Vol.9.

Studies of the biochemical mechanisms of transferable drug resistance are reviewed in the literature. The replication of R factors and other resistance plasmids is considered. The biochemical expression of extrachromosomal drug resistance is discussed in regard to penicillin, chloramphenicol, tetracycline, aminoglycoside antibiotics, sulfonamide, and macrolide antibiotics in *Staphylococcus aureus*. 180 references.

**108615** Loh, Horace H.; Stolman, S.; Lee, C.Y. Department of Pharmacology, Univ. of California Medical Center, San Francisco, California Effect of 6-hydroxydopamine on the incorporation of 14C-leucine into rat brain protein. *Life Sciences*. 10(20):1171-1180, 1971.

The effect of 6-hydroxydopamine on in vitro and in vivo cerebral protein synthesis was studied in rats. Male rats receiving 200 micrograms of 6-hydroxydopamine intracisternally daily for 3 injections showed a significant decrease in incorporating activity of 14C-leucine into brain microsomal and synaptosomal proteins over that of control animals in vitro. Experiments with intracisternally injected 14C-leucine also showed a decreased incorporation of labeled amino acid in 6-hydroxydopamine treated animals in mitochondria, crude nuclei, noncholinergic synaptosome and myelin fraction, while no change was demonstrated in the other fractions. The degeneration of adrenergic nerve endings of 6-hydroxydopamine may be related to its inhibitory action on brain protein synthesis. 11 references. (Author abstract)

**108671** Webster, W.R.; Aitkin, L.M. Neuropsychology Laboratory, Departments of Psychology and Physiology, Monash University, Victoria, Australia Evoked potential and single unit studies of neural mechanisms underlying the effects of repetitive stimulation in the auditory pathway. *Electroencephalography and Clinical Neurophysiology (Amsterdam)*. 31(6):581-592, 1971.

Click evoked potentials (EP) recorded at the cochlear nucleus, inferior colliculus and medial geniculate body of cats were depressed by repetitive stimulation without change in wave form. Injection of barbiturate did not prevent these effects from occurring at the cochlear nucleus and inferior colliculus but appeared to do so at the medial geniculate body. However, the changes at the medial geniculate body following barbiturate administration could be produced without any intervening repetitive stimulation, and the wave form shape of the EP was profoundly altered. Evoked activity succeeding the EP consisted of dyclic potential changes with a period of approximately 100 msec. Paired click recovery functions indicated that the rhythmic oscillations following the EP corresponded to alternate phases of facilitation and depression. Single unit activity in the medial geniculate body showed the same temporal variations in excitability as the EP. Both repetitive stimulation effects and temporal variations in excitability were produced, at the medial geniculate body, by local synaptic inhibition. 25 references. (Author abstract)

**108717** Nagy, A.; Wollemann, M. Biochemical Laboratory, Institute of Neurosurgery, Budapest, Hungary Different effect of chlorpromazine on the

activity of crystalline lactic dehydrogenase isoenzymes. *Biochemical Pharmacology (Oxford)*. 20(12):3331-3339, 1971.

Results are presented from an investigation of the different effect of chlorpromazine on the activity of crystalline lactic dehydrogenase isoenzymes. Chlorpromazine (CPZ) inhibits the pig muscle H lactic dehydrogenase activity in both directions in a purely noncompetitive type with the substrate. The inhibition is apparently uncompetitive with NADH. The effects of CPZ resulted in competitive activation with NADH, pyruvate and lactate using M lactic dehydrogenase as enzyme. Irradiated CPZ acted similarly to CPZ but was more active without preincubation. Using various coenzyme analogues (ADP-ribose, ADP and ATP) for inhibition of lactic dehydrogenase activity, preincubation of the enzyme with CPZ suspended the inhibitory action of ADP and ATP, but was without effect on ADP-ribose inhibition. 16 references. (Author abstract modified)

108718 Breyer, Ursula. Institut für Toxikologie, Universität Tübingen, 74 Tübingen, Germany Metabolism of the phenothiazine drug perazine by liver and lung microsomes from various species. *Biochemical Pharmacology (Oxford)*. 20(12):3341-3351, 1971.

The oxidative metabolism of perazine was studied in vitro, using solvent extraction and thin layer chromatography followed by spectrophotometry for determination of the metabolites. Liver microsomes from rats, rabbits, pigs, guinea pigs and cats and lung microsomes from rats, rabbits and pigs served as the enzyme sources. Kinetics of N-oxidation, N-demethylation, sulfoxidation and aromatic hydroxylation were measured with liver microsomes. Demethylation, sulfoxidation and aromatic hydroxylation underlie a substrate inhibition already at a perazine concentration of 1 mM, whereas N-oxidation usually is maximal with 2 mM perazine and starts to be inhibited at 4 mM perazine. In the concentration range tested (0.25-8 mM perazine) the N-oxide is always the major metabolite. Excessive N-oxidation has been observed in liver microsomes from individual pigs. Lung microsomes form substantial quantities of perazine N-oxide only, while other metabolites are produced to a negligible extent. An extremely high capacity for perazine N-oxidation was observed with rabbit lung microsomes, whereas microsomal preparations from rat and pig lungs

N-oxidize perazine at a slower rate. 26 references. (Author abstract)

108720 Ciaranello, Roland D.; Black, Ira B. Psychiatry Department, Stanford University School of Medicine, Stanford, California 94305 Kinetics of the glucocorticoid-mediated induction of phenylethanolamine N-methyl transferase in the hypophysectomized rat. *Biochemical Pharmacology (Oxford)*. 20(12):3529-3532, 1971.

Results are reported from a study of the kinetics of the glucocorticoid-mediated induction of phenylethanolamine N-methyl transferase (PNMT) in the hypophysectomized rat. These experiments suggest that dexamethasone induces PNMT in female, Sprague-Dawley hypophysectomized rats by increasing the rate of enzyme synthesis. Additional observations, demonstrating increased PNMT in normal rats after reserpine treatment, suggest a second, nonsteroid mechanism involved in the PNMT regulation. 11 references.

108731 Merck Institute for Therapeutic Research, West Point, Pa. Action of various centrally acting agents in mice with unilateral *Life Sciences*. 10(14):781-789, 1971.

Studies of mice with unilateral lesions of the caudate nucleus showed that they exhibit characteristic postural asymmetries when treated with pharmacological agents which functionally enhance or reduce central dopaminergic transmission. The lesioned mouse preparation thus provides a simple and rapid method for elucidating the mechanism of interaction of pharmacological agents with central dopaminergic systems. The action of L-dopa, apomorphine, amphetamine and prolantane in mice with unilateral lesions of the caudate nucleus is summarized, and effects of pretreatment with reserpine or alpha-methyl-tyrosine are described. 15 references. (Author abstract modified)

108792 Goridis, C.; Neff, N.H. Laboratory of Preclinical Pharmacology, National Institute of Mental Health, Saint Elizabeth's Hospital, Washington, D.C. 20032 Monoamine oxidase in sympathetic nerves: a transmitter specific enzyme type. *British Journal of Pharmacology (London)*. 43(4):814-818, 1971.

When rat brain or superior cervical ganglion monoamine oxidase was incubated with increasing concentrations of clorgyline, using tyramine as

substrate, the inhibition of the enzyme could be represented by a pair of sigmoidal curves joined by a horizontal region where inhibition was constant. Tyramine appeared to be metabolized by 2 enzymes, one of which was highly sensitive to clorgyline, designated A, whereas the other enzyme, designated B, was less sensitive to clorgyline. The ratio of A/B activity for brain was 6/4, while in the ganglion it was 9/1. When the experiments were repeated using noradrenaline as the substrate, the inhibition of the enzyme followed a simple sigmoidal curve where deamination was inhibited by low concentrations of clorgyline as observed with enzyme A. Tyramine is deaminated by both A and B enzymes, whereas noradrenaline is deaminated only by enzyme A, the enzyme which is most active in the ganglion. This is consistent with the hypothesis that a specific intraneuronal monoamine oxidase plays an important role in the catabolism of noradrenaline in sympathetic nerves. 10 references. (Author abstract)

108793 Krip, G.; Vazquez, J. Department of Pharmacology and Therapeutics, University of Manitoba, Faculty of Medicine, Winnipeg 3, Canada Effects of some sympathomimetic drugs and their antagonist on afterdischarges elicited in chronically isolated slabs of cerebral cortex. *British Journal of Pharmacology (London)*. 43(4):696-705, 1971.

The role of sympathomimetic agents in the maintenance and termination of induced cortical epileptiform activity was studied in chronically neuronally isolated slabs of cerebral cortex in the suprasylvian gyrus of unanaesthetized, unrestrained cats. The administration of the sympathomimetic agents, d-amphetamine, methamphetamine, tyramine, and ephedrine, resulted in a highly significant decrease in the duration of epileptiform afterdischarge (EADs). The alpha-adrenoceptor blocking drugs, phenoxybenzamine, phentolamine, and tolazoline, did not significantly alter the duration of EADs, but prevented the decrease in duration EADs produced by the sympathomimetic drugs. The effect of atropine and arecoline on the duration of EADs, previously described, were not modified by the alpha-adrenoceptor blocking drugs, but atropine prevented and reversed the inhibitory action of amphetamine. In the chronically neuronally isolated cortical slab there is normally no spontaneous adrenergic activity. A cortical,

cholinergic inhibitory mechanism, previously described, probably is modulated by ascending adrenergic influences. Adrenergic cholinergic linkages might be arranged in the cortex in an alternating network, as proposed by Feldberg. 31 references. (Author abstract modified)

108794 Leonard, B.E.; Shallice, Susan A. Pharmacology Section, Imperial Chemical Industries Limited, Pharmaceuticals Division, Alderley Park, Macclesfield, Cheshire Effect of p-nitromethylamphetamine on biogenic amines and their amino-acid precursors in rat brain. *British Journal of Pharmacology (London)*. 43(4):732-738, 1971.

Investigations were made to see if p-nitromethylamphetamine produced neurochemical changes which resembled those produced by p-bromomethylamphetamine. The differences between the 2 drugs are discussed. Low doses of p-nitromethylamphetamine caused small increases in the concentrations of brain noradrenaline and dopamine in the rat; a dose of 60mg/kg however, caused a decrease in the concentrations of both amines. p-Nitromethylamphetamine caused behavioral hyperexcitability only at doses which approximated to half the LD50 (68mg/kg). p-Nitromethylamphetamine potentiated the action of 4, alpha-dimethyl-m-tyramine in depleting brain noradrenaline. This suggests that it may affect brain noradrenaline concentrations by utilizing a reserpine resistant uptake mechanism. p-Nitromethylamphetamine decreased the concentration of brain 5-hydroxytryptamine. Changes in the blood and brain concentrations of tyrosine and gamma-amino-n-butyric acid concentration in the brain could not be correlated with the changes in brain amines. However, a rise in the concentration of brain tryptophan appeared to be correlated with the fall in brain 5-hydroxytryptamine. 17 references. (Author abstract modified)

108795 Grahame-Smith, D.G. Medical Unit, St. Mary's Hospital Medical School, London W2, England Inhibitory effect of chlorpromazine on the syndrome of hyperactivity produced by L-tryptophan or 5-methoxy-N,N-dimethyltryptamine treated with a monoamine oxidase inhibitor. *British Journal of Pharmacology (London)*. 43(4):856-864, 1971.

Studies showed that the hyperactivity and hyperpyrexia produced by L-tryptophan in rats treated with a monoamine oxidase inhibitor was

inhibited by chlorpromazine. Chlorpromazine did not inhibit the increased rate of synthesis of brain 5-hydroxytryptamine (5-HT) produced by tryptophan loading. Hyperactivity and hyperpyrexia were also produced by 5-methoxy-N,N-dimethyltryptamine (5-MeODMT) in rats. Pretreatment with a monoamine oxidase inhibitor potentiated the hyperactivity response. Pretreatment of rats with p-chlorophenylalanine did not inhibit hyperactivity produced by 5-MeODMT. Chlorpromazine inhibits hyperactivity caused by tryptophan or 5-MeODMT after monoamine oxidase inhibition either by competition with 5-HT or 5-MeODMT, respectively, at receptor sites or by physiological antagonism. 14 references. (Author abstract modified)

**108796 Bradshaw, C.M.; Roberts, M.H.T.; Szabadi, E.** Department of Psychiatry, University of Edinburgh, Morningside Park, Edinburgh, EH10 5HF Scotland Effect of mescaline on single cortical neurones. *British Journal of Pharmacology (London)*. 43(4):871-873, 1971.

The effects of mescaline upon single cortical neurones were studied, using the microiontophoretic technique. Mescaline elicited excitatory and depressant responses similar to those evoked by noradrenaline (NA) and 5-hydroxytryptamine (5-HT). The responses to NA and mescaline were usually in the same direction, the neurone being either excited by both drugs or depressed by both drugs. The correlation between the effects of mescaline and 5-HT, however, was less consistent. The beta-adrenoceptor blocking agent MJ-1999 and the 5-HT antagonist methysergide were both effective in antagonizing mescaline responses. 7 references. (Author abstract)

**108797 Sayers, A.; Spencer, P.S.J.** University of Aston in Birmingham, Gosta Green, Birmingham 4, England Effect of some amphetamine analogues on alpha-methyl-p-tyrosine-induced catalepsy in rats. *British Journal of Pharmacology (London)*. 43(4):877-880, 1971.

A single dose of alpha-methyl-p-tyrosine in-

duced catalepsy in rats, commencing 6 h after administration. This catalepsy was strongly enhanced by d-amphetamine and l-ephedrine, but was antagonized by other amphetamine-like drugs. The implication of these findings is briefly discussed. 8 references. (Author abstract modified)

**109030 Peterson, D.W.; Cohen, G.M.; Sparber, S.B.** Dept. of Pharmacology, University of Minnesota Medical School, Minneapolis, Minnesota 55455 The delay of the behavioral effects of delta9-tetrahydrocannabinol in rats by 2-diethylaminoethyl 2,2-diphenylvalerate HC1 (SKF 525-A). *Life Sciences*. 10(24):1381-1386, 1971.

Fixed reinforcement experiments in 4 rats demonstrated the delaying action of the metabolic inhibitor, 2-diethylaminoethyl 2,2-diphenylvalerate HC1 (SKF525-A) upon the operant behavioral effects of delta9-tetrahydrocannabinol (delta9-THC) as further indication of the role of metabolism in the activity of this drug. The rate of responding after administration of the drug alone was close to previously determined baseline rates. SKF 525-A at 5mg/kg showed a slight but insignificant increase (session length) over vehicle (Fluronic F-68) controls, indicating a slight decrease in response rate. With a larger dose of SKF 525-A (20mg/kg), the time to receive 150 reinforcers was significantly increased. An increase in session length caused by 1mg/kg delta9-THC, from an average of 41 minutes (vehicle) to 124 minutes (delta9-THC) was highly significant. When delta9-THC was preceded by 5mg/kg SKF525-A, the average time to receive 150 reinforcers (90 minutes) returned towards control and was significantly shorter than the session with delta9-THC alone. If the latency to onset of action of delta9-THC is defined as the first pause in responding for a period of 5 minutes or greater, this latency to onset after SKF 525-A and delta9-THC was longer than when delta9-THC was given alone. The contention that delta9-THC may be metabolized to a behaviorally active compound is supported. 16 references.

**109194** Marley, E.; Stephenson, J.D. Institute of Psychiatry, De Crespigny Park, London, SE5, England. Actions of dexamphetamine and amphetamine-like amines in chickens with brain transections. *British Journal of Pharmacology (London)*. 42(4):522-542, 1971.

A method for preparing the encephale isole preparation in young fowls is described. Certain important differences were found between electrocortical activity of chicken and mammalian encephale isole preparations. Electrocortical effects of excitant sympathomimetic amines and their antagonism were readily quantified because of stable electrocortical activity of the chick encephale isole preparation. Amphetamine like excitant amines (d- and l-amphetamine, alpha-methyltryptamine, tryptamine, beta-phenethylamine, cyclopentamine, beta-tetrahydronaphthylamine and tuaminoheptane) evoked electrocortical desynchronization in chick encephale isole preparations, confirming the central origin of these effects. Behavioral changes were also observed. The electrocortical response to these amines was antagonized by methysergide, a selective tryptamine antagonist and by a catecholamine, alpha-methyl-noradrenaline. Behavioral changes were also antagonized. Electrocortical desynchronization to dexamphetamine was prevented by an anterior transection of the brain which separated the telencephalon from the diencephalon. More posterior transections reduced the duration of the electrocortical response to dexamphetamine; intensity of response was either increased or decreased. 43 references. (Author abstract)

**109195** Cumings, J.N.; Hilton, Barbara P. Department of Chemical Pathology, Institute of Neurology, The National Hospital, Queen Square, London, WC1, England. Effects of methysergide on platelets incubated with reserpine. *British Journal of Pharmacology (London)*. 42(4):611-619, 1971.

Blood platelets were incubated with methysergide and related compounds (2-bromo lysergic acid (BOL), ergotamine, and methyl ergotamine) together with reserpine. Methysergide inhibited the normal aggregation response of platelets to 5-hydroxytryptamine (5HT) but did not affect the reduction in the 5HT content caused by reserpine, or the uptake of 5HT by the platelets. BOL, ergotamine, and methyl ergotamine behaved similarly. Methysergide had greater anti-5HT potency than BOL, and methyl ergotamine had greater potency than ergotamine. The use of

platelets as a model for synaptic preparations is discussed. The role of 5HT receptor sites on the platelet membrane and the significance of the results for migraine patients treated with methysergide are discussed. 24 references. (Author abstract)

**109196** Christie, Janice E.; Crow, T.J. Departments of Physiology and Mental Health, University of Aberdeen, Scotland. Possible role of dopamine-containing neurones in the behavioural effects of cocaine. *British Journal of Pharmacology (London)*. 42(4):643-645, 1971.

Cocaine (5-20mg/kg) in rats stimulates locomotor activity but does not invoke turning, although at the highest dose there is a tendency for movements to deviate towards the lesioned side. After pretreatment with nialamide (100mg/kg), cocaine (20mg/kg) induces marked turning towards the side of the lesion, an effect which is maximal 60 min after cocaine administration and lasts 3-4 hours. Desipramine (10-100mg/kg), with or without nialamide pretreatment, merely depresses locomotor activity and does not induce turning. When cocaine is administered 15 min before d-methylamphetamine (5mg/kg), the turning produced by the latter drug is considerably reduced over the first hour although the effect of d-methylamphetamine is prolonged. These results indicate that cocaine differs from desipramine and suggest that cocaine may interact with central dopamine containing neurones in addition to central noradrenaline containing neurones. This interaction may explain the central stimulatory effects of cocaine. 5 references.

**109197** Gong, S.N.C.; Rogers, K.J. Department of Pharmacology and Therapeutics, University of Sheffield, England. Role of brain monoamines in the fatal hyperthermia induced by pethidine or imipramine in rabbits pretreated with pargyline. *British Journal of Pharmacology (London)*. 42(4):646, 1971.

In patients undergoing long-term treatment with monoamine oxidase (MAO) inhibitors, therapeutic doses of pethidine or tricyclic antidepressants have caused severe toxic reactions characterized by symptoms which include excitement and hyperthermia. Similar effects are produced by pethidine or tricyclic antidepressants in rabbits pretreated with MAO inhibitors. This drug - drug interaction was investigated in rabbits pretreated with drugs which selectively alter the concentra-

tions of brain monoamines. The intravenous infusion of pethidine hydrochloride (5mg/kg) or imipramine hydrochloride (5mg/kg) caused fatal hyperthermia in rabbits premedicated with pargyline hydrochloride (2 daily doses of 25mg/kg s.c.). The pargyline treatment increased the concentrations of cerebral noradrenaline, dopamine and 5-hydroxytryptamine (5-HT) by 91%, 81% and 129%, respectively. The drug interaction was not antagonized when either reserpine (2 daily doses of 0.5mg/kg) or alpha-methyl-p-tyrosine methylester (4 doses of 80mg/kg at 12 hourly intervals) were administered in conjunction with the pargyline premedication. In these animals, the concentration of cerebral 5-HT was again substantially increased, whereas the catecholamine concentrations were either unchanged or reduced. The development of fatal hyperthermia was completely prevented when the rabbits were pretreated with p-chloro-phenylalanine (125mg/kg daily for 3 days) in conjunction with the pargyline premedication. p-Chloro-phenylalanine prevented the increase in brain 5-HT normally produced by pargyline without affecting the ability of pargyline to increase the brain catecholamine content. The results indicate that the excitement and hyperthermia evoked by pethidine or imipramine in combination with MAO inhibitors can take place only in the presence of raised levels of cerebral 5-HT. 2 references.

109198 Ambache, N.; Dunk, Linda P.; Miall, P.; Zar, M.Aboo. Department of Physiology, Royal College of Surgeons of England, Lincoln's Inn Fields WC2A 3PN Unexplained inhibitory action of D-lysergic acid diethylamide (LSD) on postganglionic motor transmission in the guinea pig vas deferens. *British Journal of Pharmacology (London)*. 42(4):659-660, 1971.

Desheathed vas deferens preparations from guinea pigs were stimulated every minute with 1-14 pulses (0.1-2 ms duration; 10 Hz; constant voltage) and the tension was recorded isometrically. D-Lysergic acid diethylamide tartrate (LSD tartrate) produced a reduction in tension response which was the more marked the fewer the number of pulses per train; 96% for 5 pulse trains but only 49% for 14 pulse trains. The corresponding curve obtained after the 42 min interval from the contralateral, untreated vas deferens did not differ by more than 5% from its original curve. Nonspecific smooth muscle depression by LSD was excluded by tests with acetyl-choline or

noradrenaline, the effects of which were potentiated. This inhibitory action of LSD, obtained also in other species, is not related to its ability to antagonize 5-hydroxytryptamine (5-HT), because: 5-HT, 1-10 micrograms/ml fails to contract the vas deferens; and the inhibitory action on the vas deferens of other, more powerful 5-HT antagonists was either considerably weaker than that of LSD, for example, 2-bromolysergic acid diethylamide hydrogen tartrate or virtually absent, for example, methysergide bimalate. Thus 2-bromo substitution or N-methylation of the indole ring drastically reduces the effectiveness of LSD, as it does for its central actions. The inhibitory action of LSD on the vas deferens does not appear to be due to antagonism of the unknown postganglionic motor transmitter at the muscle receptor level because after the maximum inhibition was obtained with LSD, it was not possible to extinguish the responses to 6-14 pulses even with a larger dosage. The inhibitory action of LSD was unaffected by reserpine and was antagonized by phentolamine. 1 reference.

109417 Ehinger, B.; Falck, B. Depts. of Experimental Ophthalmology and Histology, Univ. of Lund, Lund, Sweden Autoradiography of some suspected neurotransmitter substances: GABA, glycine, glutamic acid, histamine, dopamine, and L-dopa. *Brain Research (Amsterdam)*. 33(1):157-172, 1971.

The uptake of gamma-aminobutyric acid (GABA), glycine, glutamic acid, aspartic, L-DOPA, dopamine and histamine into the rabbit retina in vivo and in vitro was studied autoradiographically. GABA and glycine accumulated in cells that had in the main the position and spread of amacrine cells and also in some ganglion cells. Radioactivity appeared in Muller cells and retinal pigment cells after exposure of the retina to aspartic or glutamic acid in vivo. After exposure to histamine in vivo, radioactivity appeared in the retinal pigment cells and diffusely in the retina. L-DOPA and dopamine were taken up into cells with the position of the adrenergic retinal neurons. The experiments demonstrate that in central nervous tissue such as the retina, certain classes of cells preferentially accumulate glycine or GABA, presumably into 2 different sets of cells. For several reasons, it is less probable that ganglion cells operate with either glycine or GABA as neurotransmitter; the results thus suggest that the preferential uptake of either substance into a cell is not necessarily a sign of its being a neurotrans-

mitter in the particular cell. However, reasons are given for presuming GABA to be the neurotransmitter of certain amacrine cells, and the results also suggest that a similar role for glycine is worthy of further consideration. 48 references. (Author abstract)

**109418 Datta, R.K.; Ghosh, J.J.** Div. of Laboratories, Beth Israel Medical Center, New York, N.Y. 10003 Mescaline-induced changes of brain cortex ribosomes. Effect of mescaline on amino acid incorporating ability of ribosomes. *Brain Research (Amsterdam)*. 33(1):193-203, 1971.

Mescaline, at a concentration up to 10micrograms/mg ribosomal protein, caused a slight inhibition of incorporation of (14C)leucine, arginine and phenylalanine into ribosomes freshly prepared from normal brain cortex slices. Spermidine or spermine did not significantly increase the rate of incorporation. However, spermidine present in the incorporation media counteracted mostly the mescaline induced inhibition of ribosomal incorporation of amino acids. The treatment of brain cortex slices under respiring conditions with mescaline (5-10micrograms/g wet weight of brain cortex slices) resulted in marked decreases in the amino acid incorporating ability of ribosomes isolated from the slices so treated. This inhibitory effect of mescaline treatment was concentration and time dependent. However, when spermidine was present, during the mescaline treatment of brain cortex slices the mescaline induced inhibition of ribosomal amino acid incorporation was significantly counteracted. 29 references. (Author abstract)

**109620 Meldrum, B.S.; Naquet, R.** Medical Research Council Neuropsychiatry Unit, Carshalton, Surrey, Great Britain Effects of psilocybin, dimethyltryptamine, mescaline and various lysergic acid derivatives on the EEG and on photically induced epilepsy (Papio papio). *Electroencephalography and Clinical Neurophysiology (Amsterdam)*. 31(6):563-572, 1971.

Hallucinogenic drugs and some nonhallucinogenic derivatives of lysergic acid were tested for their effects on the EEG and on photically induced epilepsy in adolescent baboons (Papio papio). Psilocybin (1-4mg/kg) and dimethyltryptamine (2-4mg/kg) produced marked autonomic effects, EEG changes consistent with a severe disturbance of consciousness and a complete abolition of myoclonic or paroxysmal EEG

responses to intermittent photo stimulation (ILS), closely resembling the effect of LSD, 40-100micrograms. Mescaline was relatively ineffective on both the background EEG and on the myoclonic responses to ILS. After methysergide (2-5mg/kg), although the autonomic effects were less severe than after psilocybin, there were muscular hypotonia, an abnormal EEG and reduction or abolition of the epileptic responses to ILS. BOL 148 (2-bromo-d-lysergic acid diethylamide hydrogen tartrate) and methergoline appeared less potent than methysergide, but, at 4mg/kg, both drugs abolished ILS induced myoclonus. Averaged responses to flash stimulation showed that psilocybin resembled LSD 25 in modifying transmission in the afferent visual pathway, whereas methysergide, in doses blocking ILS induced myoclonus, did not alter primary evoked responses in the visual cortex. A serotonergic system is probably involved in the epileptic responses of the baboon to ILS. 31 references. (Author abstract modified)

**109621 Vern, Boris; Hubbard, John I.** Department of Biological Sciences, Northwestern University, Evanston, Ill. 60201 Reinvestigation of the effects of gamma-hydroxybutyrate on the sleep cycle of the unrestrained intact cat. *Electroencephalography and Clinical Neurophysiology (Amsterdam)*. 31(6):573-580, 1971.

The sodium salt of gamma-hydroxybutyric acid (GHBA) was injected intravenously 30 times into 10 intact, chronically implanted cats at a dose of 1.5mM/kg. After a latency of 1-10 min hypersynchronous high voltage EEG appeared in the lateral geniculate nucleus, cortex and hippocampus. The animals showed pupillary dilatation and slight to exaggerated behavioral responsiveness to arousal stimuli. Slight to moderate generalized myoclonic twitches were often observed in phase with the EEG hypersynchrony. After 5 of the injections, the hypersynchronous state SWS (slow wave sleep) was, after a variable latency, replaced by a different state, characterized by complete behavioral and EEG unresponsiveness, pupillary constriction, silent periods in the hippocampus interrupted by high voltage spikes and disorganized high voltage activity in the cortex and lateral geniculate. Thirteen injections induced, after a variable latency, a state similar to paradoxical sleep (PS), but characterized by high voltage slow wave activity in cortex and lateral geniculate instead of the normal

desynchronization. Within 5 min, 7 injections induced sws/PS and 9 induced a pure PS. PS in the 20 min period before injection did not appear to influence the probability that GHBA injection would induce PS or sws/PS. 11 references. (Author abstract modified)

109622 Samuels, Carl. Arizona State University Effects of mescaline and nembutal on cortical and retinal light-evoked responses in the cat. (Ph.D.dissertation). *Dissertation Abstracts International*. Ann Arbor, Mich., Univ.M-films, No.71-28514 HC\$10.00 MF\$4.00 69 p.

Nembutal and mescaline induced changes in the simultaneous retinal and cortical light evoked responses were examined in the cat. It was noted that the drugs had similar effects on the electroretinogram but markedly different effects on the cortical response. Mescaline consistently resulted in the appearance of a distinct second component in the cortical response. Correlations of simultaneous retinal and cortical events proved to be sensitive to drug effects. (Journal abstract modified)

109918 WWebb, George D.; Farquharson, Donald A. Dept. of Physiology and Biophysics, Univ. of Vermont College of Medicine, Burlington, Vt. 05401 Effects of LSD-25 and mescaline on the electroplax of the electric eel. *American Journal of Physiology*. 221(6):1802-1808, 1971.

Microelectrodes were used to measure the electrical potential across the innervated membrane of the isolated electroplax of *Electrophorus electricus*. Both LSD and mescaline produced a non-surmountable, reversible inhibition of the carbamylcholine depolarization. LSD sometimes produced a slight hyperpolarization of the resting potential, and LSD reduced the amplitude of the action potential reversibly, but had little apparent effect on the summated postsynaptic potential, although the threshold for electrical stimulation was increased. Mescaline did not alter the resting potential or the direct action potential, but blocked the postsynaptic potential reversibly. The calculated body fluid concentration of mescaline that would result from the usual hallucinogenic dose causes a marked inhibition of the carbamylcholine depolarization of the electroplax. This is consistent with the hypothesis that mescaline may produce its psychological effects by blocking cholinergic transmission in the central nervous system. LSD probably produces its psychological

effects by some other means. The concentration of LSD required to see any effects on the electroplax was much higher than the calculated body fluid concentration following the usual human dose. 37 references.

110188 Calcutt, C.R.; Doggett, N.S.; Spencer, P.S.J. Pharmacological Laboratories, Department of Pharmacy, University of Aston, Birmingham 4, England Modification of the anti-nociceptive activity of morphine by centrally administered ouabain and dopamine. *Psychopharmacologia (Berlin)*. 21(2):111-117, 1971.

Measurements of the antinociceptive activity of morphine were made in mice which had received intracerebroventricular injections of small doses of ouabain or dopamine, which were themselves devoid of antinociceptive activity. Both agents produced an immediate potentiation of the antinociceptive activity of morphine. Since centrally administered ouabain can increase whole brain dopamine levels, it is possible that the observed potentiating effects of ouabain may have a dopaminergic component. 14 references. (Journal abstract)

110960 Boston, J.E. Rensselaer Polytechnic Institute, Troy, New York 13281 Effect of p-chlorophenylalanine on avoidance conditioning and its interaction with amphetamine. *Journal of Mental Deficiency Research (London)*. 15(4):257-265, 1971.

The relationship of p-chlorophenylalanine to active avoidance behavior was studied. Both the development and performance of a conditioned avoidance response (CAR) in a 2 way shuttle box were examined. Rats maintained at 20% of their normal level of 5-hydroxytryptamine (5-HT) learn as readily and can perform CAR's comparable to controls if arousal is maintained with amphetamine during training sessions. If amphetamine is not administered these subjects show significantly poorer performance. These results suggest the hypothesis that the poor performance is due to chronic arousal caused by the 5-HT depletion and the effect is observed to be age dependent. 25 references. (Author abstract modified)

111073 Gripenberg, J.; Jansson, S.-E. Department of Anatomy, University of Helsinki, Siltaavuorenpenger 20 B, Helsinki, Finland Preliminary report on the incorporation of guanethidine and

reserpine into rat peritoneal mast cells in vitro. *Experientia (Basel)*. 27(12):1451-1452, 1971.

A preliminary report is presented on the incorporation of guanethidine and reserpine into rat peritoneal mast cells in vitro. Such research was considered of interest since it has been noted that reserpine affects the endogenous content of 5-hydroxytryptamine (5-HT) and depresses the uptake of this amine into mast cells, and that both guanethidine and reserpine affect the uptake of 5-HT into isolated mast cell granules. Adult Sprague-Dawley rats of both sexes were used. The results indicated that incorporation of reserpine differed markedly from that of guanethidine in that it was completely independent of temperature, whereas the latter was temperature dependent. The intracellular location of both drugs seemed to be mainly granular, judging from the assay of nuclear and granular fractions collected after incubation with the drugs. In addition, both drugs seem to become incorporated into mast cells independently of each other. These preliminary results showing incorporation of both drugs into mast cells, where the drugs become bound to the amine storing granules, are in close correspondence with earlier observations, showing that both substances interfere with 5-HT kinetics in mast cells. 22 references.

111130 Gul'yants, E.S.; Vorontsov, V.A.; Gavrilova, T.M. Tsentral'naya nauchno-issledovatel'skaya laboratoriya Rostovskogo meditsinskogo instituta, Rostov-na-Donu, USSR /Effect of reserpine on the hypothalamoneurohypophyseal neurosecretory system./ Vliyaniye rezepina na gipotalamo-neyrogipofizarnuyu neyrosekretornuyu sistemu. *Farmakologiya i Toksikologiya (Moskva)*. 34(5):542-544, 1971.

Experiments on dogs showed that peroral administration of reserpine is capable of changing neurosecretion of the hypothalamoneurohypophyseal system by inhibiting the secretory processes in the neurons of the supraoptical and paraventricular nuclei and decreasing these processes in the neurohypophysis. It is suggested that the induced changes are a manifestation of the pharmacodynamic effect produced by reserpine in inhibiting generation of neurohormones and realization of adaptive reactions. 1 reference. (Journal abstract modified)

111132 Fedyayeva, L.P.; Gilev, A.B. Laboratoriya farmakologii Novokuznetskogo nauchno-iss-

ledovatel'skogo khimiko-farmatsevticheskogo instituta, Novokuznetsk, USSR /Analysis of the central effect of tryptamine and N,N-dimethyltryptamine./ Analiz tsentral'nogo deystviya triptamina i N,N-dimetiltriptamina. *Farmakologiya i Toksikologiya (Moskva)*. 34(5):535-540, 1971.

Tryptamine and N,N-dimethyltryptamine (DMT) produce an effect of activation and improvement of the assimilation reaction following photostimulation applied at varying frequency in the cortex of intact rabbits. Tests involving severance of the brain stem at different levels proved this effect to be linked to stimulation of structures in the caudal divisions of the stem. Tryptamine and DMT inhibit the activity of the cortical areas investigated and cause almost no changes in the assimilation responses when the section is made at the mesencephalic and more rostral levels. They fail to produce any effect on the activity of a practically isolated cortex. The results of tests on reserpine treated rabbits suggest that activation on the electrocorticogram produced by tryptamine and DMT stems from stimulation of serotonin receptors in the axial brain structures. 18 references. (Journal abstract modified)

111136 Veselyunene, M.A.; Gutman, A.M.; Lesena, B.A. Laboratoriya nefrofiziologii Kaunasskogo meditsinskogo instituta, Kaunas, USSR /Effect of nembutal on the inhibitory wave of antidromically induced potential in the motor cortex of the cat./ Vliyaniye nembutala na tormoznuyu volnu antidromno vyzvannogo potentsiala motornoy kory koshki. *Farmakologiya i Toksikologiya (Moskva)*. 34(5):520-522, 1971.

The amplitude of the surface negative wave in the motor cortex induced by triple pyramidal tract stimulation was found to increase with additional nembutal doses in cats. It is generally assumed that this wave is generated by IPSP of pyramidal tract neurons. Therefore, it seems likely that barbituates do not suppress activity of the inhibitory cells. The well known decrease of spontaneous IPSP with deepening of barbituate anesthesia may appear secondary as a result of diminished spike activity. 14 references. (Journal abstract modified)

111137 Popova, E.N.; Rayevskiy, K.S.; Krivitskaya, G.N.; Matveyeva, T.S.; Gorshechnikova, Ye.P. Institut farmakologii AMN SSSR, Moscow /Structure of the neuron and interneuron links in the brain of rats under the effect of caffeine and

phenamine./ Struktura neyronov i mezheynronal'nykh svyazey golovnoy mozga krysy pri deystvii kofeina i fenamina. *Farmakologiya i Toksikologiya (Moskva)*. 34(5):515-519, 1971.

The effect of caffeine and phenamine, psychostimulators with different types of action, on the structure of the neurons, glia and interneuron links in different regions of the brain of rats was studied. The intensity of the stimulating effect with respect to altered motor activity of the animals was recorded simultaneously. Both psychostimulators tended to increase the motor activity of rats and caused structural changes in the brain, dissimilar in localization and nature. Caffeine produced more pronounced changes in the neurons of subcortical formations rich in adrenergic elements. 22 references. (Journal abstract modified)

111143 Loizzo, A.; de Carolis, A.Scotti; Longo, V.G. Laboratori di Chimica Terapeutica, Istituto Superiore di Sanita, Rome, Italy Studies on the central effects of bulbocapnine. *Psychopharmacologia (Berlin)*. 22(3):234-249, 1971.

The central effects of bulbocapnine were studied in mice and rats. The antagonism and synergism on the part of various substances on bulbocapnine catalepsy were investigated, together with the influence of the drug on the EEG in animals with chronically implanted electrodes. In mice and rats, 3 types of drugs proved to be effective in attenuating the bulbocapnine induced catalepsy: antihistaminics (diphenhydramine, promethazine), antiparkinsonians (amantadine, trihexyphenidyl), and antidepressives (imipramine). Potentiation in both intensity and duration of catalepsy was noted after administration of L-Dopa and 5-hydroxytryptophan. In rabbits, all the components of the cataleptic syndrome were much less marked than in the other animal species. Cats proved to be the most sensitive animal, the smallest effective dose of bulbocapnine being 5mg/kg, s.c. A biphasic effect of bulbocapnine was demonstrated in the experiments involving concomitant observations of EEG and behavior. In none of the animal species used were significant alterations of the cerebral electrical activity observed during the cataleptic state. In mice and rats, spikes appeared in the EEG only after the onset of immobility and they anticipated the excitatory phase. Some of the described effects are interpreted as the results of an influence of the alkaloid on the central

catecholaminergic system. 38 references. (Author abstract modified)

111216 Gottesfeld, Zehava; Elliott, K.A.C. Isotope Department, Weigman Institute of Science, Rehovoth, Israel Factors that affect the binding and uptake of GABA by brain tissue. *Journal of Neurochemistry*. 18(5):683-690, 1971.

As previously reported, when rat brain tissue was homogenized in isotonic solution and the suspension was centrifuged, less gamma-aminobutyric acid (GABA) was found in the sediment if the solution contained only sucrose than if it contained some sodium chloride. Sodium bromide and sodium iodide were as effective as chloride. Less effective were, sodium sulfate, sodium phosphate, and the chlorides of potassium, lithium, choline, ammonium, calcium or magnesium. Ouabain and protoveratrine inhibited the extra binding promoted by sodium chloride in brain suspensions and inhibited the uptake of GABA by respiring slices of cerebral cortex; tetrodotoxin alone had no effect in either case but reversed the effect of protoveratrine. Considerable inhibition of the uptake of GABA by brain slices was observed with glutamic acid, imipramine, chlorpromazine, procaine, xylocaine, or picrotoxin but not with acetylcholine, prostigmine, norepinephrine, dopamine, chloral hydrate, chlorotone, pentylentetrazol or methionine sulfoximine. 27 references. (Author abstract modified)

111290 Mashkovskiy, M.D.; Grinev, A.N.; Andreyeva, N.I.; Shvedov, V.I.; Altukhova, L.B. Laboratoriya farmakologii Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta, Moscow /Investigating the psychotropic effect of 1,10-trimethylene-pyrazino (1,2-a) indole./ Issledovaniye psikhotropnogo deystviya proizvodnykh 1,10-trimetilenpirazino (1,2-a) indola. *Farmakologiya i Toksikologiya (Moskva)*. 34(4):387-391, 1971.

Five new derivatives of 1,10-trimethylenepyrazino (1,2-a) indole and 2 derivatives of 1,10-trimethylenepyrazino (1,2-a) indole were investigated for indicators of psychotropic effect (influence on phenamine and reserpine effects in mice and rats, cataleptic activity of the drugs in rats and the effect on the body temperature and overall condition of mice). The most active were derivatives of 1,10-trimethylenepyrazino (1,2-a) indole: it was unsubstituted in the ring and had a methoxyl sub-

stitute in position 8 and methyl substitutes in positions 2 and 8 of the heterocycle. These compounds are similar to antidepressants of tricyclic structure in the nature of their effect. Derivatives of 1,10-trimethylenepyrazino (1,2-a) indole are less active according to the indicators investigated. The quaternary derivative of the series 1,10-trimethylenepiperazino (1,2-a) indole is considerably less active than the corresponding tertiary amine. 12 references. (Journal abstract modified)

**111291 Lyubimov, B.I.** *Laboratoria farmakologii nervnoy sistemy Instituta farmakologii AMN SSSR, Moscow* /On the relationship between the chemical structure and psychotropic activity among derivatives of benzodioxane and trimethylbenzoic and trimethoxybenzoic acids./ O zavisimosti mezhdu khimicheskoy strukturoy i psikhotropnoy aktivnost'yu sredi proizvodnykh benzodioxana, trimetilbenzoynoy i trimetoksimetilbenzoynoy kislot. *Farmakologiya i Toksikologiya (Moskva)*. 34(4):392-397, 1971.

The relationship between the chemical structure and psychotropic activity of 25 compounds belonging to derivatives of benzodioxane and trimethylbenzoic and trimethoxybenzoic acids was investigated in mice and rats. The substances were studied with respect to their effect on conditioned avoidance and elementary conditioned reflexes, on spontaneous motor activity, potentiation of the anesthetic effect of thiopental sodium, on hypothermal effect and muscle relaxation. It is shown that the most active compounds belong to the trimethylbenzoic acid derivatives. Problems concerning the relationship between the structure and effect of compounds in the series under consideration are discussed. 4 references. (Journal abstract modified)

**111292 Lakoza, G.N.** *Laboratoriya psikhofarmakologii Instituta farmakologii AMN SSSR, Moscow* /Comparative study of the effect of tricyclic antidepressants on the self-stimulation reaction of the brain in rats./ Sravnitel'noye izucheniye vliyaniya tritsiklicheskikh antidepressantov na reaktsiyu samorazdrazheniya mozga u krysa. *Farmakologiya i Toksikologiya (Moskva)*. 34(4):397-401, 1971.

A comparative study of the effect exerted by tricyclic antidepressants, derivatives of aminodibenzyl, dibenzocycloheptadiene and phenothiazine, on the self-stimulation reaction of

the brain of rats following implantation of electrodes into the lateral hypothalamus and their ability to potentiate the effect of phenamine was made in experiments on white male rats. Chloracetyazine and fluoracetyazine, unlike imizin and amitryptiline, were found to increase the intensity of the brain self-stimulation reaction in rats and to potentiate the activating influence of phenamine to a greater degree. Comparison of the findings with respect to results of tests carried out in a study of anticholinergics suggested that the stimulating effect of fluoracetyazine and chloracetyazine might be due to their anticholinergic properties. 10 references. (Journal abstract modified)

**111293 Vysotskaya, N.B.; Porfir'yeva, R.P.; Vorob'yeva, V.M.** *Laboratoriya farmakologii nervnoy sistemy Instituta farmakologii AMN SSSR, Moscow* /Effect of triphthazine and chlorpromazine on noradrenaline and ATP concentration in the granulation and supernatant fractions of the brain stem./ Vliyaniye triptazina i aminazina na soderzhanie noradrenalina i ATF v granulyarnoy i nadosadochnoy fraktsiyakh stvola mozga. *Farmakologiya i Toksikologiya (Moskva)*. 34(4):401-404, 1971.

The effect of chlorpromazine and triphthazine on noradrenalin and ATP levels in the supernatant and granulation fractions of the brain stem, the sites marking localization of free and combined forms of monoamines, was investigated in rats. Administration of triphthazine in a dose of 0.5mg/kg was followed by significant changes of noradrenalin level in the supernatant fraction. A dosage of 5mg/kg depressed the noradrenalin level in both fractions, with ATP rising in the supernatant fraction. The sedative effect of chlorpromazine (2mg/kg) was not accompanied by any changes of noradrenalin level in the supernatant fraction, but an increase of the level was recorded in the granules. In a higher dose, chlorpromazine, like triphthazine, affected noradrenalin binding and release processes in the granules. The facts confirm a previous assumption that neuroleptics affect processes of binding and release of catecholamines in the granules. 13 references. (Journal abstract modified)

**111294 Oksenkrug, G.F.; Kiseleva, I.P.** *Laboratoriya psikhofarmakologii Leningradskogo NI psikhonevrologicheskogo instituta, Leningrad* /Effect of lithium on serotonin level in the brain of white mice./ Vliyaniye litiya na soderzhanie serotoninu v

mozgu belykh myshey. *Farmakologiya i Toksikologiya (Moskva)*. 34(4):405-408, 1971.

The effect of lithium on the serotonin level and 5-hydroxytryptophan carboxylase activity in the brain of mice was studied. Serotonin level was measured fluorometrically. A dose of 100mg/kg did not alter the serotonin level in the brain of intact mice, but had a counter effect on an increase of amine level, induced by administration of 5-oxytryptophan. A dose of 200mg/kg of lithium decreased the level of serotonin in intact mice, but the effect of lithium was blocked by niamide. Lithium did not affect the activity of 5-hydroxytryptophan carboxylase. It is suggested that lithium activates the catabolism of serotonin. 12 references. (Journal abstract modified)

111661 Graham, Allan W.; Aghajanian, George K. Department of Psychiatry, Yale University School of Medicine, New Haven, Connecticut 06519 Effects of amphetamine on single cell activity in a catecholamine nucleus, the locus coeruleus. *Nature (London)*. 234(5324):100-102, 1971.

The effects of amphetamine (and chlorpromazine antagonism of these effects) on single neurons in the rat locus coeruleus are described. The firing rate more than doubled in 56% (14 of 25) of the neurons, decreased in a half to a third of the original rate in 16%, and was unchanged in 28% after amphetamine administration (intravenous). Neutralization of this activity by chlorpromazine was noted in 4 of 7 neurons; in the remaining 3 neurons, there were small or transient increases in activity. It is suggested that amphetamine releases presynaptically bound noradrenaline or dopamine and blocks their re-uptake, thus building up postsynaptic catecholamines at locus coeruleus terminals. Other hypotheses of amphetamine activity are mentioned, for example, as a sympathomimetic amine. 27 references.

111703 Markin, V.A.; Mitrofanov, V.S. Laboratoriya farmakologii nervnoy sistemy Instituta farmakologii AMN SSSR, Moscow /On the selective effect of the new antidepressant fluoracizine on the activity of pyridine dehydrogenases in the brain of rats./ Ob izbratel'nom deystvii novogo antidepressanta fluoratsizina na aktivnost' piridinovykh dehidrogenaz v golovnom mozge krysa. *Byulleten' Eksperimental'noy Biologii i Meditsiny (Moskva)*. 72(11):46-48, 1971.

The effect of fluoracizine, a new Soviet antidepressant of phenothiazine structure, on the activity of NAD dependent dehydrogenases in different parts of the rat brain was investigated by histochemical methods. Single administration of the drug decreased the activity of the oxidase enzymes under study, chiefly in some portions of the limbic system and reticular formation of the medulla oblongata. Activation of dehydrogenases in a number of segments of the cerebral cortex, strio - pallidum, amygdala and hippocampus was recorded, along with the aforementioned effect, after repeated administration of the preparation. 6 references. (Journal abstract modified)

111704 Baru, A.M.; Rasin, M.S.; Braude, I.Ya. Laboratoriya biokhimii Khar'kovskogo NII nevrologii i psikiatrii Khar'kov /Increased rate of noradrenalin circulation in the hypothalamus after demedullation of the adrenal glands./ Uvelicheniye skorosti 'krugoborota' noradrenalina v glipotalamuse posle demedullyatsii nadpochechnikov. *Byulleten' Eksperimental'noy Biologii i Meditsiny (Moskva)*. 72(11):23-24, 1971.

Administration of the inhibitor dopamine-beta-oxidase (disulfiram) to white male rats was followed by a steeper decline of the noradrenalin level in the hypothalamus than was the case in animals with intact adrenal glands. Demedullation with administration of disulfiram did not affect noradrenalin changes in the heart and cerebral hemispheres. 4 references. (Journal abstract modified)

111765 Parkhomets, P.K.; Kocherga, V.I. Institut biokhimii Akademii nauk Ukrayins'koyi RSR, Kiyev /Effect of melipramine on serotonin metabolism in the rat brain./ Vplyv melipraminu na obmin serotoninu v golovnomu mozku shchuriv. *Ukrain'skyi Biokhimichnyi Zhurnal (Kiev)*. 43(3):275-278, 1971.

The effect of melipramine (50mg/kg) on the content of serotonin and 5-oxyindole acetic acid in the homogenate of the brain and on the monoaminoxidase activity of the mitochondrial fraction and nerve endings of white male rats was studied. It was established that serotonin content increases within 4 to 5 hours and 5-oxyindole acetic acid content decreases within 5 hours after administration of melipramine. Monoaminoxidase activity of the mitochondrial fraction and nerve endings isolated from the brain homogenate of

rats decreases under the effect of melipramine. 15 references. (Journal abstract modified)

**111816 Rabin, A.G.; Glants, V.L.** Laboratoriya fiziolog. podkorkovykh struktur mozga Instituta normal'noy i patologicheskoy fiziolog. AMN SSSR, Moscow /Changes in the reactivity of neurons of the projection cortex under the effect of nembutal./ *Izmeneniye reaktivnosti neyronov proyeksionnoy kory pod vliyaniyem nembutala. Byulleten' eksperimental'noy biologii i meditsiny (Moskva).* 72(8):63-65, 1971.

Comparison of the nature of changes of focal responses of the somatosensory cortex and reactions of separate neurons indicates the high sensitivity of neuronal systems of projection cortex zones to barbiturates. Administration of nembutal causes a shortening of the duration of neuronal reactions, deterioration of the capacity to follow frequency stimulation and phase fluctuations of excitability. Similar changes of the high frequency components of focal responses and discharges of a specific group of cortical neurons confirm the assumption of their causal interrelationship. 12 references. (Journal abstract modified)

**111831 Voronka, G.Sh.** Laboratoriya funktsional'noy neyrokhimii Instituta fiziologii im. I.P.Pavlova AN SSSR, Leningrad /Effect of phenamine-induced insomnia and of subsequent sleep on protein content in the neurons and glial cells of the supraoptic and red nuclei of the brain./ *Vliyaniye dlitel'noy fenaminovoy bessonnitsy i posleduyushchego sna na sodержaniye belkov v neyronakh i ikh glial'nykh kletkakh satellitakh supraopticheskogo i krasnogo yader golovnoy mozga. Fiziologicheskii Zhurnal SSSR Imeni I. M. Sechenova (Leningrad).* 57(7):962-968, 1971.

The content of total and basic proteins was determined in the individual neurons and glial cells of the hypothalamic supraoptic and the mid-brain red nuclei of Wistar rats in which 1, 2 and 4 day insomnia was induced by phenamine (amphetamine) administered every 3 hours. Such insomnia was shown to result in a marked decrease of protein content in the neurons and neuroglia of both nuclei, especially the supraoptic nuclei. The decrease was greatest by the end of the first day of insomnia while further insomnia caused lesser changes in the content of cellular proteins. Changes of basic protein content in the neurons were virtually the same as the changes of total protein content with no changes in basic

protein content found in the neuroglia. Fifteen to 20 minutes of sleep after 96 hours of insomnia increased the basic proteins to a higher than normal level in the glial cells of both nuclei. Phenamine induced insomnia was followed by a decrease in the volume of the cytoplasm of the supraoptic neurons and of the body of the glial cells of both nuclei. 27 references. (Journal abstract modified)

**112287 Jackson, D.M.** Department of Pharmacology, University of Sydney, Sydney, Australia The effect of beta-phenethylamine on noradrenaline concentrations in guinea-pig brain. *Journal of Pharmacology and Pharmacology (London).* 23(8):623-624, 1971.

Guinea-pigs received 1 dose of either 100 or 200mg/kg of beta-phenethylamine (PE) and were killed at various intervals after injection. An effect was observed on brain noradrenaline concentration within 15 min. Peak depletion was 1 hr after injection and recovery to control values was within 24 hr. The depletion of noradrenaline was dose dependent, and at the highest dose, marked behavioral changes, including licking, and clonic convulsions in some animals, were observed. These changes were maximal 1 hr after injection of PE. There was no detectable change in brain dopamine levels. Repeated doses of PE at 1 hr intervals to another group of guinea pigs showed that maximum noradrenaline depletion occurred after the third injection, and that the concentration after 3 injections was not significantly different from that after 6 injections. There may not be a clear correlation between spontaneous coordinated motor activity and noradrenaline depletion by PE. Other factors, one of which may be a direct component of action, may be operating, in the same way as has been suggested for the CNS effects of amphetamine. 14 references.

**113434 Rapoport, I.A.; Filippova, L.M.; Zhurkov, V.S.** Institut khimicheskoy fiziki AN SSSR, (Moscow) /Mutagenic activity of phenothiazine and other drugs./ *Issledovaniye mutagennoy aktivnosti fenotiazinovyykh i drugikh lekarstvennykh preparatov. Genetika (Moskva).* 7(8):115-124, 1971.

The effects of 8 derivatives of phenothiazine and 9 other compounds on *Drosophila melanogaster* were investigated. Three of the compounds (pipolphen, caffeine and haloperidol) had a higher activity in inducing excessive lethal mutations. The value of some models during investigation of the genetic hazard produced by

some drugs is discussed. 13 references. (Journal abstract modified)

113480 Zakusov, V.V.; Ostrovskaya, R.U. Institut farmakologii AMN SSSR, Moscow /Effect of neurotropic drugs on cortical evoked potentials./ Vliyaniye neyrotropnykh veshchestv na kortikal'nyye vyzvannyye potentsialy. *Neyrofiziologiya (Kiyev)*. 3(6):582-591, 1971.

The following kinds of evoked cortical potentials were studied in acute experiments on cats and rabbits: direct cortical and transcallosal responses, the responses in bulbar pyramids evoked by cutaneous stimulation and by stimulation of the motor cortex, primary responses in S-I and interareal somato-motor response. It is shown that anesthetics have a pronounced effect on the above cortical potentials. This effect is preserved if the influence through the brain stem is excluded entirely or partly (injection in the arteria carotis interna, local application to the cortex, and experiments with precollicular sectioned brain and isolated cortex). Neuroleptics have a negligible effect on cortical evoked potentials due to their blocking action on the reticular formation. Tranquillizers of the benzodiazepine series have a pronounced effect on cortical potential and this effect is not mediated through the subcortical structures; it has a primary cortical origin. 23 references. (Journal abstract modified)

113520 Zabrodin, O.N. Laboratoriya eksperimental'noy farmakologii otdela farmakologii Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad /Effect of imipramine on catecholamine content in a neurogenically dystrophic gastric wall./ Vliyaniye imipramina na sodержaniye katekholaminov v stenke zheludka pri yeye neyrogennoy distrofii. *Farmakologiya i toksikologiya (Moskva)*. 34(6):688-690, 1971.

Neurogenic dystrophy of the gastric wall was induced by electrization of immobilized male albino rats for 3 hours. Imipramine in doses of 0.5 or 10 mg/kg was injected intraperitoneally into rats 1 hour before commencement of stimulation. A dose of 5 mg/kg imipramine did not prevent development of ulceration of the gastric wall, whereas a dose of 10 mg/kg reduced the number of ulcerations by more than 3 times. In both cases imipramine did not prevent a decrease of the norepinephrine level in the gastric wall, caused by irritation leading to dystrophy of it. 11 references. (Journal abstract modified)

113521 Neshev, G. Kafedra eksperimental'noy i klinicheskoy farmakologii instituta spetsializatsii i usovershenstvovaniya vrachey, Sofia, Bulgaria /Effect of chlorpromazine and phenamine on the basal metabolism and conditioned reflex activity in rats under stress conditions./ Vliyaniye khlorpromazina i fenamina na osnovnoy obmen i uslovnoreflektornuyu deyatel'nost' krys v usloviyakh stressa. *Farmakologiya i toksikologiya (Moskva)*. 34(6):674-676, 1971.

The effect of a nonspecific neurohormonal reaction of the organism, stress, to the properties of chlorpromazine and phenamine in altering basal metabolism and the conditioned reflex activity was investigated in 70 albino Wistar rats. Stress factors decrease the inhibiting effect of chlorpromazine on basal metabolism and increase the effect of phenamine. Stress reduces the effect of chlorpromazine on inhibition processes in the cerebral cortex, intensifying arousal processes. The effect of phenamine and stress factors on higher nervous activity are summarized. 6 references. (Journal abstract modified)

113522 Markin, V.A.; Mitrofanov, V.S. Institut farmakologii AMN SSSR, Moscow /Changes in the activity of oxidative enzymes in the brain of rats under the effect of trifluoperazine (stelazine)./ Ob izmenenii aktivnosti oksidativnykh fermentov v golovnom mozge krys pod vliyaniyem trifitazina (stelazina). *Farmakologiya i toksikologiya (Moskva)*. 34(6):659-663, 1971.

Histochemical investigations made in rats demonstrated trifluoperazine to be capable of causing appreciable depression in the activity of a number of pyridine dehydrogenases in many brain structures. Trifluoperazine was found to act selectively on different parts of the brain, predominantly on the limbic system, depending on the degree of reduced enzyme activity. The possible relationship between histochemical changes and functional activity of cerebral structures is discussed. 15 references. (Journal abstract modified)

113523 Shchelkunov, Ye.L.; Stabrovskiy, Ye.M. Laboratoriya psikhofarmakologii Leningradskogo psikhonevrologicheskogo instituta im. V.M. Bekhtereva, Leningrad /Relationship between depletion of norepinephrine in the brain and the hypothermic effect of apomorphine in mice./ Svyaz' mezhdru istoshcheniyem noradrenalina v mozge i gipotermicheskim efektom apomorfina u myshey. *Farmakologiya i toksikologiya (Moskva)*. 34(6):653-657, 1971.

Brain and adrenal catecholamines in mice were determined fluorometrically. When used in doses of 20 to 40mg/kg intraperitoneally, apomorphine hydrochloride caused a drop of about 50% of norepinephrine (NE) in the brain and of epinephrine (E) and dihydroxyphenylalanine (DOPA) in the adrenals within 30 minutes after injection. These changes disappeared quickly within an hour after injection. Hexamethonium (10mg/kg intraperitoneally given 1 hour before apomorphine) had no effect on NE depletion in the brain, but prevented the decrease of epinephrine and DOPA in the adrenals. Desmethylinipramine (DMI) (10mg/kg intraperitoneally given 40 minutes before apomorphine) prevented a decrease of NE in the brain, as well as of E and DOPA in the adrenals. The hypothermic effect of apomorphine is associated with NE depletion in the brain, because (1) there exists a correlation between the hypothermic effect of apomorphine and the decrease of NE in the brain, (2) hexamethonium does not influence apomorphine induced hypothermia, and (3) DMI counteracts the hypothermic effect of apomorphine. Analysis of the experimental data and sources from the literature suggests that a rapid release of NE in the brain and its effect on the central mechanism of thermoregulation is the basis of the hypothermic effect of apomorphine. 22 references. (Journal abstract modified)

113567 Wenzel, J.; Muller, M. *Neuropharmakologische Abteilung, Institut für Pharmakologie und Toxikologie, Hartelstr. 16 18, DDR 701 Leipzig, Germany* /On the functional relationship between physiological and pentetrazol induced rhythmic activity in the EEG of unrestrained rats./ Zur funktionellen Beziehung zwischen physiologischer und Pentetrazol-induzierter rhythmischer Aktivität im Hirnstrombild der freibeweglichen Ratte. *Acta Biologica et Medica Germanica (Magdeburg)*. 26(3):533-542, 1971.

Freely moving male albino rats with chronical electrodes in the motoric and visual cortex, olfactory bulb and dorsal hippocampus were injected with pentetrazol after having fixed the original values in the state of relaxed wakefulness of the animals. In a limited dose range (around 30mg/kg) the substance causes rhythmic discharges in the EEG which by their localization, shape and frequency largely conform to the spontaneously induced spindle activity. Another form which is observed in the visual cortex only is identical with flash stimulated photic afterdischarges. In addition

pentetrazol strongly promotes the generation of the latter and of photic recruitment. The pentetrazol effects are discussed as an expression of increased readiness for rhythmic discharges within the thalamocortical system, and in connection with more recent ideas about the importance of fronto - orbital brain regions for the generation of spindle activity. 25 references. (Journal abstract)

115043 Leonard, B.E.; Watkinson, W.D. *Pharmacology Section, Imperial Chemical Industries Limited, Pharmaceuticals Division, Alderley Park, Nr.Macclesfield, Cheshire, England* Some effects of 4-hydroxybutyric acid on brain carbohydrate metabolism. *Life Sciences*. 10(12):713-719, 1971.

4-Hydroxybutyric acid (gamma-OH), a hypnotic, caused a marked rise in the brain glucose concentration of mice shortly after its parenteral administration. Such an effect was not correlated with the sedation and anesthesia produced by the drug. Brain glycolysis was reduced only slightly. It is suggested that gamma-hydroxybutyrate causes a rise in brain glucose by increasing the synthesis of this substrate within the brain decreasing glycolyses, decreasing amino acid syntheses from glucose or by a combination of these factors. The possible clinical usefulness of this drug in the treatment of senile dementia and Parkinsonism is discussed. 14 references. (Author abstract modified)

115044 Kahonen, Matti T.; Ylikahri, Reino H.; Hassinen, Ilmo. *Department of Medical Chemistry, University of Helsinki, Helsinki, Finland* Ethanol metabolism in rats treated with ethyl-alpha-chlorophenoxyisobutyrate (clofibrate). *Life Sciences*. 10(12):661-670, 1971.

The effect of clofibrate (ethyl-alpha-chlorophenoxyisobutyrate) on the rate of ethanol elimination, hepatic alcohol dehydrogenase (ADH) activity in vivo and ethanol induced changes in the hepatic redox state in perfused livers of rats was investigated. Clofibrate treatment increased the liver to body weight ratio of the rats by 71%. The activity of mitochondrial alpha-glycerophosphate dehydrogenase in the liver of clofibrate treated rats was five times greater than in normal rat liver. The amounts of cytochrome a and mitochondrial protein per gram of liver wet weight were not changed. Clofibrate treatment increased the oxygen consumption of liver slices. Ethanol increased the lactate/pyruvate ratio (an

index of the redox state in the cytosolic compartment of the liver cell) in perfused normal livers and only slightly in the livers from clofibrate treated rats. This effect of clofibrate is similar to that of thyroxine and seems to be due to enzyme induction, as diethylaminoclofibrate hydrochloride added in vitro did not prevent ethanol induced increase in hepatic lactate/pyruvate ratio. Clofibrate treatment in rats significantly increased the disappearance rate of ethanol. The activity of hepatic alcohol dehydrogenase per gram of liver wet weight or per milligram of soluble protein was not changed by clofibrate treatment. 29 references. (Author abstract modified)

115310 Lundborg, Per; Kellogg, Carol. Dept. of Pharmacology, University of Goteborg, Goteborg, Sweden Formation of (3H)noradrenaline and (3H)dopamine in the brain and heart of the rat foetus. *Brain Research (Amsterdam)*. 29(2):387-389, 1971.

The formation of 3H-noradrenaline (3H-NA) and 3H-dopamine (3H-DA) in the brain and heart of the rat fetus was studied by injecting pregnant rats through the tail vein with either tritiated 3,4-dihydroxyphenylalanine (3H-DOPA) or tyrosine (3H-tyrosine) on the 20th day of gestation. Essentially no 3H-NA or 3H-DA were produced in either the brain or the heart of the fetus following injection of 3H-tyrosine to the mother. Considerably more 3H-NA and 3H-DA were produced in the brain of the fetus than in the brain of the mother one hour after the injection of 3H-Dopa to the mother. The injection of 3H-Dopa to the mother has been found to be an effective method for labelling NA and DA in tissues of the fetus. 7 references.

116154 Tanase, Hisao; Hirose, Kouichi; Suzuki, Yoshio. Research Laboratories Sankyo Co., Ltd., Tokyo, Japan The safety test of 10-chloro-11b-(2-chlorophenyl)-2,3,5,6,7, 11b-hexahydrobenzo(6,7)-1,4-diazepino(5,4-b)oxazol-6-one(CS-370) -- II. effect of CS-370 upon the development of pre-and post-natal offsprings of experimental animals. *Annual Report of Sankyo Research Laboratories*. 23:180-191, 1971.

The influence of CS-370, a new minor tranquilizer, on the development of pre and post-natal offspring of experimental mice and rats is presented. Mice in the 7th to 12th day of pregnancy and rats in the 9th to 14th day of pregnancy were orally administered CS-370 at doses of 600,

300, 30 and 3mg/kg a day. The fetuses were removed from dams on the 18th day of pregnancy in mice and on the 20th day in rats, and were examined for gross malformation and skeletal abnormalities. Some offspring were left to be delivered naturally. No lethal, teratogenic effects, or any influence on the development and behavior of the surviving offspring were identified. 9 references. (Author abstract modified)m

117580 Boyaner, H.G.; Radouco-Thomas, S. Dept. of Pharmacology, Faculty of Medicine, Laval University, Quebec 10, Canada Partial antagonism by exogenous calcium of the depressant effect of reserpine in rat shuttlebox behavior. *Brain Research (Amsterdam)*. 33(2):589-591, 1971.

Partial antagonism by exogenous calcium of the depressant effect of reserpine in the rat shuttlebox behavior was studied. Four treatment groups of 10 rats each were randomly chosen: 1) received a placebo; 2) calcium only; 3) reserpine only; and 4) calcium plus reserpine. Three injections of calcium were given at 15 minute intervals. Calcium pretreatment partially antagonized the effect of reserpine on avoidance for 3-24 hours. The calcium and calcium and reserpine groups had recovered to almost predrug criterion avoidance levels, whereas the reserpine group had not yet recovered 24 hrs after injection. It is suggested that calcium pretreatment prevents the reserpine induced depletion of cerebral monoamines. The capacity of high calcium pretreatment to prevent or to reverse the reserpine induced effects could be related to specific interactions between calcium and reserpine at the level of the presynaptic membrane. 24 references.

117581 Fertziger, A.P.; Liuzzi, S.E.; Dunham, P.B. Marine Biological Laboratory, Woods Hole, MA 02543 Diphenylhydantoin (Dilantin): stimulation of potassium influx in lobster axons. *Brain Research (Amsterdam)*. 33(2):592-596, 1971.

Evidence for a diphenylhydantoin (DPH) induced action on nonepileptic, nonhyperactive lobster axon bundles, namely stimulation of active potassium (K) transport is presented. Results suggest that DPH affects the K transport system by increasing the maximum rate of transport and not by increasing the affinity of the transport system for K. This is in contrast to the findings that DPH appeared to increase K affinity in sodium (Na)-ATPase from synaptosomes without affecting maximum velocity of the reaction. It is

emphasized that it is unusual for a substance which is neither substrate, source of energy, nor hormone, to stimulate active transport. DPH may act by stimulating K uptake by nerve or glial cells, thereby reducing the extracellular K concentrations. It is suggested that an increase in extracellular K concentration, even if equal in magnitude to the increase in intracellular Na concentration, should be more effective in increasing the excitability of the involved neurons because of the greater permeability of the neuron to K than to Na. A reduction in the transmembrane sodium gradient, which would have a minimal effect on the resting potential, would decrease the amplitude of the action potential, an event which might be expected to reduce the activity in postsynaptic neurons. 28 references.

117681 Fog, Rasmus; Parkenberg, Henning. Psychopharmacological Laboratory, Sct.Hans Hospital, Roskilde, Denmark Intracerebral lesions causing stereotyped behaviour in rats. *Acta Neurologica Scandinavica (Kobenhavn)*. 47(4):475-484, 1971.

Bilateral intracerebral lesions performed with a microcannula in corpus striatum, hippocampus or thalamus induced in reserpinized rats a stereotyped hyperactive behavior for six to eight minutes consisting of continuous biting without normal activities and resembling the amphetamine induced stereotypy. Bilateral cannula lesions of the dorsal cortex give a shorter response. The behavioral response is not influenced by inhibition of dopaminergic mechanisms in the brain and is prolonged by pretreatment with an anticholinergic drug. This lesion stereotypy is thus of neither dopaminergic nor cholinergic origin and, therefore, differs from the amphetamine stereotypy (dopaminergic) as well as the paradoxical reserpine stereotypy (cholinergic). Pretreatment with DOPA or a small dose of amphetamine as well as intracerebral injection of 25% potassium chloride or saline does not change the stereotypy. 23 references. (Author abstract)

118563 Farnebo, Lars-Ove. Department of Histology, Karolinska Institutet, S-104 01 Stockholm, Sweden Effect of reserpine on release of (3H)noradrenaline, (3H)dopamine and (3H)metaraminol from field stimulated rat iris. *Biochemical Pharmacology (Oxford)*. 20(10):2715-2726, 1971.

The field stimulation induced release of (3H)noradrenaline (3H-NA), (3H)dopamine (3H-DA) and, (3H)metaraminol (3H-MA) from the isolated rat iris was investigated. Irises from untreated rats or rats pretreated with reserpine and/or the monoamine oxidase inhibitor nialamide were incubated with 3H-NA, 3H-DA or 3H-MA, superfused with physiological buffer, and stimulated electrically. In irides from untreated rats where 3H-NA is taken up into the nerves and incorporated into the amine storage granules, stimulation substantially enhanced the overflow of tritium. The greatest part of the tritium efflux during stimulation was recovered as 3H-NA. Pretreatment with nialamide slightly decreased the total tritium overflow but increased the overflow of 3H-NA. After reserpine (four hours) and nialamide (one hour), 3H-NA taken up into the nerves is mainly located extragranularly in the axoplasm. In this case the stimulus induced overflow was almost completely abolished. This confirms the earlier finding that extragranular 3H-NA cannot be released by electrical stimulation. 3H-DA can, after reserpine and nialamide, partly be taken up into the amine storage granules by a reserpine resistant mechanism and was to a certain extent released together with 3H-NA newly formed from 3H-DA. After reserpine, 3H-MA can be incorporated into the amine storage granules by a reserpine resistant mechanism. The 3H-MA, taken up after reserpine, was released to the same extent as 3H-MA taken up in irides of untreated rats. It is concluded that granular storage of the transmitter is a prerequisite for depolarization induced release. 47 references. (Author abstract modified)

118564 Jori, A.; Pescador, R.; Publiatti, C. Istituto di Ricerche Farmacologiche 'Mario Negri', Via Eritrea, 62-20157 Milano, Italy Rat strain differences in the activity of hepatic microsomal enzymes. *Biochemical Pharmacology (Oxford)*. 20(10):2695-2701, 1971.

Drug metabolism in Sprague-Dawley and Long-Evans rats, from two different sources, was studied in vitro and in vivo. Female Long-Evans (A) rats, but not Long-Evans (B) rats, metabolize pNO<sub>2</sub> anisol, aminopyrine, hexobarbital and imipramine in vitro to a lower extent than Sprague-Dawley rats. Marked sex differences in this respect are evident in both strains. In vivo a reduced elimination of aminopyrine from plasma was obtained in Long-Evans rats (A) as compared to animals from the (B) source. Moreover tissue

concentration of imipramine, aminopyrine and phenobarbital were higher Long-Evans (A) than in Sprague-Dawley. The disappearance from plasma of amphetamine and zoxazolamine was apparently not different in the two strains. 23 references. (Author abstract modified)

**118566** Samed, Mohammed M.Abdel; Akopyan, Zh.I.; Veryovkina, I.V.; Kulygina, A.A.; Gorkin, V.Z. Institute of Biological and Medical Chemistry, Academy of Medical Sciences of the U.S.S.R., Moscow, U.S.S.R. Effect of monoamine oxidase inhibitors on qualitative alterations in enzymatic properties of mitochondrial monoamine oxidases. *Biochemical Pharmacology (Oxford)*. 20(10):2571-2577, 1971.

Preincubation of highly purified ox liver monoamine oxidase (MAO) with specific MAOI pargyline, iproniazid or tranylcypromine prevents qualitative alteration (transformation) in enzymatic properties of MAO after treatment of the enzyme with oxidized oleic acid (OOA). Pretreatment with pargyline or tranylcypromine of highly purified rat liver MAO prevents qualitative alteration in its enzymatic properties after incubation with Cu in aerobic conditions. Pretreatment of rats with iproniazid prevents appearance in liver mitochondria of histamine, putrescine and L-lysine deaminating activity after parenteral administration of OOA into the rats. It is possible that MAOI may find new fields of application based on their property to prevent qualitative alteration in enzymatic properties of monoamine oxidases in some pathological state (e.g.those accompanied by accumulation of lipid peroxides in tissues). 37 references. (Author abstract)

**118568** Hawkins, Sanders F.; Hankinson, James B.; Merritt, James H.; Medina, Miguel A. Pharmacology-Biochemistry Branch, Biosciences Division, USAF School of Aerospace Medicine, Brooks Air Force Base, TX 78235 Effect of reduced barometric pressure on drug action and metabolism in mice. *Biochemical Pharmacology (Oxford)*. 20(9):2221-2229, 1971.

The effect of reduced barometric pressure on drug action and metabolism was investigated in mice. Mice kept at a simulated altitude of 18,000 ft for five days had a shorter duration of loss of righting reflex with hexobarbital, zoxazolamine and mephenesin, but not with pentobarbital. Exposure to reduced pressure did not alter brain receptor sensitivity to these drugs. Decreased

hexobarbital sleeping time was produced three days after initial simulated altitude exposure and was reversed within three days after return to normobaric conditions. The hepatic microsomal metabolism of aniline, hexobarbital, nitroanisole and dichlorophenolindophenol was increased in mice kept in a hypobaric chamber while that of methylaniline was not altered. Mice exposed to reduced pressure had a loss of total body weight, liver weight, and liver water content. Hepatic RNA-P and DNA content was increased, but there was no change in the hepatic microsomal protein or cytochrome P-450 content. A decreased hexobarbital sleeping time in different mice strains was observed at a simulated altitude of 18,000 ft but not at 8000 ft. The results suggest that the alterations in drug action observed may be due primarily to increased drug metabolism produced by hypobaric hypoxia. 35 references. (Author abstract)

**119016** Pomeroy, A.; Rand, M.J. Department of Pharmacology, University of Melbourne, Parkville, Vic. 3052, Australia Facilitation of noradrenaline uptake by lithium. *Australian and New Zealand Journal of Psychiatry (Carlton, Australia)*. 5(4):280-285, 1971.

It has been suggested that lithium exerts its antimanic effect by facilitation of noradrenaline uptake into adrenergic neurones. Evidence in support of this hypothesis has been obtained from pharmacological experiments and in whole animals. The effectiveness of lithium in facilitating the uptake of noradrenaline was greater under conditions of reduced noradrenaline uptake, as in the presence of cocaine, than under control conditions. 28 references. (Author abstract)

**119552** Ahlenius, Sven; Engel, Jorgen. Department of Pharmacology, University of Goteborg, Goteborg, Sweden Behavioural and biochemical effects of L-DOPA after inhibition of dopamine-beta-hydroxylase in reserpine pretreated rats. *Naunyn-Schmiedeberg's Archive of Pharmacology (Berlin)*. 270(4):349-360, 1971.

A single dose of L-3,4-dihydroxyphenylalanine (L-Dopa, 100mg/kg i.p.), after peripheral Dopadecarboxylase inhibition by means of NI-(DL-seryl)-N2-(2,3,4-trihydroxybenzyl) hydrazine (50mg/kg i.p.) given to reserpine pretreated (5mg/kg i.p.) male rats, was found to reverse the reserpine induced suppression of a conditioned avoidance response (CAR). This reversal followed

the same time course as the increase in central dopamine (DA) levels, whereas the small but significant increase in central noradrenaline (NA) levels had a longer duration than the CAR reversal. When L-Dopa was given to rats pretreated with reserpine and bis-(4-methyl-1-homopiperazinylthiocarbonyl) disulfide (FLA-63, 10mg/kg i.p.), a DA-beta-hydroxylase inhibitor, the accumulation of NA was inhibited and the CAR reversal was markedly reduced. Animals treated with FLA-63 in addition to reserpine displayed a more stereotyped behavior after L-Dopa than those not treated with FLA-63 and it is suggested that NA has a moderating influence on stereotyped behavior. The results obtained in the current investigation provide further support for the view that the loss of CA, especially, DA, is of importance for the gross behavioral syndrome observed after reserpine. It is suggested that DA is important for elementary motor functions while additional NA receptor stimulation is essential for more complex and integrated behavior. 41 references. (Author abstract)

**119553 Coper, H.; Lison, H.; Rommelspacher, H.; Schulze, G.; Strauss, S.** Institut für Neuropsychopharmakologie der Freien Universität Berlin, D-1000 Berlin 19, Ulmenallee 30, Germany The influence of adrenergic receptor-blocking agents, amphetamine, and 6-aminonicotinamide on thermoregulation. *Naunyn-Schmiedeberg's Archive of Pharmacology (Berlin)*. 270(4):378-391, 1971.

The influence of alpha- and beta-receptor blocking agents, as well as that of amphetamine and of 6-aminonicotinamide (6-AN) on the body temperature of the rat was examined at 3 different ambient temperatures (AT). The AT is crucial both for the direction and the potency of the caloric effect. The AT at which a drug does not affect the body temperature is referred to as the specific indifferent temperature. At 4 degrees C and 22-24 degrees C, the alpha-receptor blockers phentolamine, and dihydroergotamine (DHE), as well as 6-AN lower the body temperature, while the beta-receptor blockers do not interfere with it. The specific indifferent temperature of amphetamine lies below 22 degrees C. Higher ATs result in hyperthermia, lower temperatures lead to hypothermia. The results obtained in combined treatment demonstrate that the thermic effect produced by amphetamine at 4 degrees C AT probably does not develop via adrenergic mechanisms. In addition, these studies do not rule

out the possibility that 6-AN may influence body temperature in a similar way as phentolamine and DHE. 30 references. (Author abstract)

**119648 Wasilewska, Elzbieta; Bargiel, Zofia.** Dept. of Animal Physiology, Institute of Biology, Nicholas Copernicus Univ., Torun, Poland Adrenergic mechanisms in hypoglycemic shock in rabbits: II. Disorders of adrenergic response compensating hypoglycemia in rabbits treated with small doses of reserpine. *Polish Endocrinology (Warszawa)*. 22(4):285-296, 1971.

Adrenergic mechanisms in hypoglycemic shock were investigated in rabbits. The minimal doses of reserpine which cause a marked drop in adrenaline (A) and noradrenaline (NA) levels in the adrenals of rabbits 24-48 hours after injection was established. The influence of this dose on experimental hypoglycemia and hypoglycemic shock was manifested by deeper hypoglycemia, preponderance of tonic convulsions and cases of death during shock. Assays of catecholamines (CA) in venous blood plasma during hypoglycemia showed undeterminable levels of A and a single ejection of NA 10 minutes after injection of insulin or just before appearance of shock. In blood samples obtained during hypoglycemic shock, levels of both catecholamines were undeterminable, and glucose levels were very low. 38 references. (Author abstract modified)

**119698 Seghatchian, M. J.; Winder, A. F.** Dept. of Pharmacology, Guy's Hospital Medical School, London S.E.1, England Functional interactions between aldolase and chlorpromazine. *Chemico-Biological Interactions (Amsterdam)*. 3(6):413-419, 1971.

The effects of chlorpromazine (CPZ) on rabbit muscle aldolase were studied by fluorescence spectroscopy, gel filtration and dialysis. Aldolase was activated by chlorpromazine at drug levels of low concentrations but progressively inhibited at higher concentrations. Fluorescence measurements indicated that interaction took place by hydrophobic binding and involved a chlorpromazine free radical. Tightly coupled drug-protein complexes were demonstrated by gel filtration, with evidence of protein heterogeneity after exposure to chlorpromazine levels approaching .0001M. Complexes produced after exposure to lower concentrations of chlorpromazine were stable and functional units and the altered properties of these units probably results from

modification of the internal organisation of the protein. A mechanism for hydrophobic interaction based on the structural characteristics of chlorpromazine is proposed, and this hypothesis is extended to a wider consideration of phenothiazine effects. 12 references. (Author abstract)

119724 Wada, Juhn A.; Terao, A.; Scholtmeyer, H.; Trapp, W. G. Kinsmen Laboratory of Neurological Research, Univ. of British Columbia, Vancouver 8, B. C., Canada Susceptibility to audiogenic stimuli induced by hyperbaric oxygenation and various neuroactive agents. *Experimental Neurology*. 33(1):123-129, 1971.

The effects of agents, or combinations of agents, which are known to modify the pattern of brain activity or brain levels of neurohumoral agents on reversible audiogenic seizure susceptibility induced by hyperbaric oxygenation (HPO) at 6 atmospheric pressure (ATA), were studied in rats. A precursor of catecholamine, DL-3,4-dihydroxyphenylalanine (DOPA), and a precursor of serotonin, DL-5-hydroxytryptophan (5-HTP), showed slight intensification and some inhibition, respectively. The tyrosine hydroxylase inhibitor, DL-alpha-methyl-p-tyrosine (alpha-MPT) slightly decreased the susceptibility and DL-p-chlorophenylalanine (PCPA), the tryptophan hydroxylase inhibitor, slightly intensified the susceptibility. Combined administration of these agents produced a maximal degree of protection against the development of audiogenic susceptibility in this series. Atropine and eserine produced some protection and a slight intensification, respectively. Reserpine, a depletor of catecholamine and serotonin, produced a slight accentuation at 20 min and a subsequent decrease at both 1 hr and 10 hr. When DOPA, 5-HTP, or both DOPA and 5-HTP, were given to the reserpinized animals at 10 hr, prominent intensification of the susceptibility along with a high mortality were observed. The data suggest that the availability of free but not bound serotonin and catecholamine are responsible for the modulation of the HPO induced audiogenic seizure susceptibility. 7 references. (Author abstract modified)

120408 Walker, R. J.; Woodruff, G. N. Dept. of Physiology and Biochemistry, Southampton Univ., Southampton SO9 5NH, England Structure-activity studies on a 5-hydroxytryptamine receptor of *Helix aspersa* neurones. *British Journal of Pharmacology* (London). 43(2):415P-416P, 1971.

The structural requirements for the 5-hydroxytryptamine (5-HT) receptor in snails (*Helix aspersa*) is investigated. The potency of 8 compounds was tested and all caused excitation of certain neurons. It is concluded that for potent 5-HT like activity, agonists should contain the following groups: an indole nucleus; either a hydroxyl or methoxy in the 5 position; a terminal unsubstituted nitrogen. Addition of methyl groups to the terminal nitrogen generally reduced potency. 3 references.

120409 Jones, Margaret E. L.; Spriggs, T. L. B. Dept. of Pharmacology, Welsh National School of Medicine, Heath Park, Cardiff CF4 4XW, Wales Pharmacological observations on the vas deferens of the mouse. *British Journal of Pharmacology* (London). 43(2):430P-431P, 1971.

The behavior of the isolated mouse vas deferens was observed when treated with a number of drugs. The stripped vas deferens appeared relatively insensitive to agonist drugs. Noradrenaline, adrenaline and acetylcholine produced small contractions. Dopamine, 5-hydroxytryptamine and histamine failed to contract the preparation. Despite the insensitivity of the preparation to exogenous noradrenaline, the involvement of noradrenergic nerve fibres in the responses to transmural stimulation is suggested by the inhibitory action of guanethidine on these responses, and by the observations that dexamphetamine would protect against, or reverse, guanethidine induced inhibition. In addition, desmethylinipramine prevented the inhibitory action of guanethidine. However, the responses of the vas deferens to transmural stimulation were also impaired by atropine. Dexamphetamine antagonized this effect of atropine, although with the higher doses of atropine recovery after dexamphetamine was not 100%. The inhibitory action of atropine was markedly reduced by prior exposure of the vas deferens to dexamphetamine or desmethylinipramine. 1 reference.

120410 Southgate, P. J.; Wilson, A. B. Dept. of Pharmacology, Wyeth Institute of Medical Research, Taplow, England Pharmacological interaction of lorazepam with thiopentone sodium and skeletal neuromuscular blocking drugs. *British Journal of Pharmacology* (London). 43(2):434P-435P, 1971.

The pharmacological interactions of lorazepam with thiopentone and skeletal neuromuscular

blocking drugs in mice and decerebrate cats were investigated. The infusion of thiopentone and laorzepam reduced the time to induction of hypnosis and arrest of respiration. The results indicated that lorazepam and thiopentone interacted to produce an effect greater than the expected from simple addition although it is concluded that there are no untoward pharmacological interactions when lorazepam or diazepam are combined with thiopentone or skeleton neuromuscular blocking drugs. 2 references.

**120411** Cottrell, G. A. Wellcome Laboratories of Pharmacology and Physiology Dept., Univ. of St. Andrews, Fife, Scotland Action of imipramine on 5-hydroxytryptaminergic transmission and on 5-hydroxytryptamine uptake in the snail (*Helix pomatia*) brain. *British Journal of Pharmacology* (London). 43(2):437P, 1971.

Experiments were performed to test the effect of imipramine on the synaptic links between the giant 5-hydroxytryptamine (5-HT) containing cell (GSC) of the snail and 2 neurones in each buccal ganglion. Imipramine markedly potentiated transmission between the cells. The effect was observed as an increase in the rate of membrane depolarization (made up of summed excitatory potentials) after adding imipramine. Biochemical studies have shown that labeled 5-HT in snail saline is taken up by the brain in situ and in vitro. This uptake was antagonized by imipramine. The data shows that the uptake of 5-HT is an important factor in terminating transmitter action at the 5-hydroxytryptaminergic synapse. 4 references.

**120412** Halliday, J.; Molr, A. T. B. M.R.C. Brain Metabolism Unit, Pharmacology Dept., Edinburgh Univ., 1 George Square, Edinburgh, EH8 9JZ, Scotland Effect of drugs used in status-epilepticus on the potassium fluxes of cerebrospinal fluid in the conscious dog. *British Journal of Pharmacology* (London). 43(2):448P-449P, 1971.

Drugs useful in the treatment of status epilepticus were investigated for their effect on the potassium fluxes of cerebrospinal fluid (C.S.F.) of dogs. Of the drugs investigated, the barbiturate anesthetics, sodium thiopentone and sodium pentobarbitone, when given in doses sufficient to achieve light anesthesia, had the most striking effects, producing highly significant decreases of up to 40% in both potassium rate constants. Phenytoin and diazepam both produced significant decreases of between 6-14% in efflux and influx

rates of C.S.F. potassium in subanesthetic doses while paraldehyde, even when given in sufficiently high doses to produce light anesthesia, had no significant effect on potassium fluxes. 6 references.

**120413** Blakeley, A. G. H.; Summers, R. J. Dept. of Pharmacology, Glasgow Univ., Glasgow W2, Scotland Effect of the monamine oxidase inhibitor pargyline on the uptake of labelled noradrenaline by the cat's spleen. *British Journal of Pharmacology* (London). 43(2):451P-452P, 1971.

Experiments to determine whether pargyline affects noradrenaline uptake in the cat spleen were performed. Labeled noradrenaline was injected into the blood of cats both with and without addition of pargyline. The addition of pargyline caused an increased uptake of noradrenaline by the spleen. The monamine oxidase inhibitor also affected the amount of labeled metabolites produced by the spleen following the injection of labelled noradrenaline. 3 references.

**120466** Shore, P. A.; Sugrue, M. F. Department of Pharmacology, University of Texas Southwestern Medical School, Dallas, TX 75235 Amine uptake characteristics of the guinea-pig Auerbach plexus. *British Journal of Pharmacology* (London). 42(4):661-662, 1971.

Noradrenaline (NA) uptake is a sodium ion dependent phenomenon, and in a study of the sodium ion dependent uptake of the NA analogue 1-metaraminol (1-MA) by rabbit heart slices it has been shown that the amine transport system appears to be coupled, rather than an allosteric, type of (Na ion) dependency. Thus, lowering (Na ion) resulted in a decreased Vmax with an unchanged apparent Km. The 1-MA uptake kinetics in longitudinal muscle Auerbach plexus of the guinea pig was studied, since this preparation has an extremely efficient amine concentrating mechanism. In rabbit heart, a Na ion dependent, optically specific and reserpine sensitive amine carrier mechanism which is distinct from the main, relatively nonspecific, reserpine insensitive membrane amine carrier system exists; a study was made to determine if such a system exists in the guinea pig Auerbach plexus. Kinetic studies revealed that alterations in (Na ion) left the apparent Km of 1-MA uptake unaltered but did effect a change in Vmax. Incubating the Auerbach plexus in the presence of a high (K ion) also lowered Vmax while leaving the apparent Km

unaltered. A plot of d-MA uptake versus (Na ion) showed that d-MA uptake was a single linear function with respect to (Na ion). This was not so with l-MA, the amine uptake versus (Na ion) curve being biphasic. Pretreatment with reserpine (1mg/kg) 18 h before death had no effect on d-MA uptake in the presence of various (Na ion). Reserpine treatment significantly decreased l-MA uptake both under normal conditions and in media containing low (Na ion). The effect of reserpine was to abolish one phase of the l-MA versus (Na ion) curve and the resultant curve was linear with respect to (Na ion). These observations strongly suggest that reserpine abolished a (Na ion) dependent optically specific transport system. These studies suggest that the characteristics of the (Na ion) dependent uptake of l-MA are similar in both the rabbit heart and the guinea pig Auerbach plexus. 5 references.

**120467 Jori, A.; Di Salle, E.; Santini, V.** Istituto di Ricerche Farmacologiche 'Mario Negri,' Via Eritrea 62, 20157 Milan, Italy Daily rhythmic variation and liver drug metabolism in rats. *Biochemical Pharmacology (Oxford)*. 20(11):2965-2969, 1971.

Alterations in the diurnal rhythmicity of drug metabolism activity and corticosterone plasma concentrations when the schedule of environmental lighting is artificially reversed were studied. Four substrates (hexobarbital, imipramine, p-nitroanisole and aminopyrine) are metabolized by rat liver (9000 g fraction) with a rhythm showing a minimum or a maximum between 10.00 a.m. and 2.00 p.m. The minimum was reached during light and the maximum during darkness when the illumination schedule was respectively from 6.30 a.m. to 6.30 p.m. or from 6.30 p.m. to 6.30 a.m. The change in drug metabolism corresponds also to a change in the level of plasma corticosterone. The daily variation in endogenous plasma corticosterone may be reversed when the cycles of light and darkness are also inverted. The possibility that neuroendocrine factors may be responsible for the daily rhythm of drug metabolism is discussed. 31 references. (Author abstract modified)

**120468 Rivera-Calimlim, L.; Morgan, J. P.; Dujoyne, C. A.; Bianchini, J. R.; Lasagna, L.** Rochester University School of Medicine and Dentistry, Department of Pharmacology, Rochester, NY 14620 L-3,4-dihydroxyphenylalanine metabolism by the gut in vitro. *Biochemical Pharmacology (Oxford)*. 20(11):3051-3057, 1971.

The metabolism of L-3,4-dihydroxyphenylalanine (L-dopa) by rat gastric and intestinal mucosa was studied by incubating everted sacs with <sup>14</sup>C-L-dopa. Metabolites in the tissue and in the mucosal and serosal fluids were separated by ion-exchange chromatography and the radioactivity was determined by liquid scintillation counting. The data on the metabolites, expressed as percent of the total radioactivity of the respective compartments, were 20.1% for the mucosal fluid, 41.8% for the tissue, and 65.3% for the serosal fluids of the stomach preparation. Values for the metabolites from the intestines were 39.6, 31.0, and 46.1% for mucosal, tissue, and serosal fluids respectively. The metabolites in order of decreasing concentration were; phenylcarboxylic acids, dopamine, and other catecholamines in both stomach and intestines. There was significant inhibition of metabolism when <sup>14</sup>C-L-dopa was incubated with tissues from rats pretreated with a decarboxylase inhibitor, alpha-methyl hydrazine. The presence of blood tissue inhibit the autooxidation of L-dopa ordinarily seen at neutral pH under conditions of oxygenation and incubation at 37 deg. The drug metabolizing capacity of the gut could theoretically decrease serum concentrations of an affected drug, produce metabolites capable of inducing local or systemic toxicity, enhance or block absorption of a second drug, sensitize the gut to other substances, or produce morphologic changes in the gut. 6 references. (Author abstract)

**120469 Susten, Allan S.; Mennear, John H.; Miya, Tom S.** Department of Pharmacology and Toxicology, Purdue University, Lafayette, Ind. 47907 Effect of chlorpromazine on rat tissue uptake of <sup>14</sup>C-3-O-methyl-D-glucose. *Biochemical Pharmacology (Oxford)*. 20(11):3145-3150, 1971.

The effect of chlorpromazine (CPZ) on sugar transport in rats was investigated by studying the influence of CPZ pretreatment on tissue distribution of <sup>14</sup>C-3-O-methyl-D-glucose (3-MG), a nonutilizable glucose analog. It reduced the uptake of label in diaphragm and elevated serum levels when <sup>14</sup>C-3-MG was administered intraperitoneally (i.p.). No significant effects were observed in brain and posterior tibialis muscle when tissue/serum ratios for each were evaluated. However, no CPZ induced changes in serum or tissue levels were observed when <sup>14</sup>C-3-MG was intravenously administered. Furthermore, it was found that i.p. administration of CPZ promotes the absorption of both 3-MG and glucose from the peritoneal cavity. The reduction of glucose

tolerance in rats after CPZ pretreatment is not due to a direct peripheral effect of CPZ on the permeability of tissue to glucose. 23 references. (Author abstract modified)

120471 Shah, Nandkumar S. William S. Hall Psychiatric Institute, Columbia, SC 27925 Subcellular distribution of 8-14C-mescaline in the mouse brain and liver. *Biochemical Pharmacology (Oxford)*. 20(11):3207-3210, 1971.

The distribution of injected 8-14C-mescaline into subcellular particles of brain and liver of control mice and of mice pretreated with iproniazid, semicarbazide, or reserpine was investigated. The animals exhibited gross behavioral changes characterized by agitation and excitement within 30 min after the administration of 50mg/kg of mescaline. This behavior continued for 60-90 min with peak changes occurring at 60 min. The period of excitation was followed by a period of inactivity with weakness and uncoordinated movements of the hind legs. The animals treated with iproniazid or semicarbazide were slightly more active than the saline treated controls. The animals pretreated with either iproniazid or semicarbazide followed by mescaline exhibited gross behavioral changes similar to those observed in the animals treated with mescaline alone. The reserpinized animals exhibited signs characteristic of reserpine. The administration of mescaline to reserpinized animals did not modify the reserpine induced sedation. The concentration of mescaline reached a maximum in 60 min and then declined. The levels of mescaline in the brain of mice pretreated with iproniazid or reserpine were not significantly different from the control group. Pretreatment with reserpine or semicarbazide rendered very little effect on the hepatic levels. Pretreatment with iproniazid considerably elevated the formation of N-acetylmescaline; the level of unchanged mescaline remained unaffected at 1 hr but, compared with the control value, was significantly elevated at 3 hr. Pretreatment with reserpine, iproniazid or semicarbazide had virtually no effect on the subcellular distribution of mescaline into the brain and liver and on the excretion of 14D in the urine. Inhibition of the amine oxidase pathway failed to alter the localization of mescaline into various subcellular fractions of brain or liver. Reserpine exerted no influence on the distribution pattern of mescaline into various subcellular fractions of both brain and liver. Injected mescaline perhaps does not oc-

cupy the amine containing granules that were previously emptied of their contents by reserpine pretreatment. 9 references.

120716 Da Silva, G. R.; Silva, M. R. E. Department of Pharmacology, Faculty of Medicine of Ribeirao, Preto, S.P., Brazil Catatonia induced in the rabbit by intracerebral injection of bradykinin and morphine. *European Journal of Pharmacology (Amsterdam)*. 15(2):180-186, 1971.

Bradykinin (BK) in doses of 2.5-5.0micrograms, induced catatonia when injected either into the cerebral ventricles or into the cisterna magna of rabbits. In a dose that did not produce catatonia, morphine significantly increased the duration of catatonia induced by BK. The probable site of action for BK induced catatonia is suggested. The potentiation of BK central effects by small doses of morphine suggested the possibility that the alkaloid produces its central effects through a kininergic mechanism. A special device to measure catatonia is also described. 17 references. (Author abstract)

120717 Anden, N. E.; Corrodi, H.; Fuxe, K.; Ungerstedt, U. Department of Pharmacology, University of Goteborg, Goteborg, Sweden Importance of nervous impulse flow for the neuroleptic induced increase in amine turnover in central dopamine neurons. *European Journal of Pharmacology (Amsterdam)*. 15(2):193-199, 1971.

The influence of chlorpromazine, haloperidol, spiroperidol and pimozide on dopamine (DA) turnover in vivo in the rat neostriatum was studied in the absence and presence of nervous impulse flow, using the tyrosin hydroxylase inhibitor, alpha-methyl-tyrosine methylester (H44/68) followed by biochemical and histochemical analysis of DA. Nervous impulse flow in the nigro - neostriatal DA neurons was impaired by making an acute electrothermic lesion of the DA bundle at the level of the corpus mammillare, before injecting the neuroleptic drugs. In the absence of nervous impulse flow, practically no DA depletion was obtained after H44/68 treatment, whereas a clearcut reduction was observed on the intact side. Furthermore, the acceleration of H44/68 induced DA disappearance caused by chlorpromazine, haloperidol, spiroperidol and pimozide on the intact side was not seen on the operated side, suggesting that nervous impulse flow is necessary for the neuroleptics to increase central DA turnover. At least part of this increase in DA

turnover is due to a compensatory increase in the activity of DA neurons initiated by the DA receptor blockade caused by the neuroleptic drugs. 24 references. (Author abstract)

**120718 Philippi, A.; Przuntek, H.; Heyd, G.; Burger, A.** Department of Pharmacology, and Toxicology, University of Wurzburg, Germany Central effects of sympathomimetic amines on the blood pressure. *European Journal of Pharmacology (Amsterdam)*. 15(2):200-208, 1971.

The effect of superfusion of the hypothalamus with sympathomimetic amines on the release of endogenous noradrenaline and blood pressure in cats was measured. The cat hypothalamus was labelled with <sup>14</sup>C-noradrenaline and after four hr superfused with artificial cerebrospinal fluid containing tropolone and nialamide. Superfusion with noradrenaline and adrenaline enhanced the release of radioactive amines from the hypothalamus and caused a dose dependent rise of peripheral blood pressure. The separation by paper chromatography of the radioactive compounds showed that during superfusion of the hypothalamus with noradrenaline the relative concentration of the released <sup>14</sup>C-noradrenaline was increased significantly, while the release of <sup>14</sup>C-3-methoxy-4-hydroxymandelic acid and <sup>14</sup>C-3-methoxy-4-hydroxyphenylglycol was strongly decreased. Beta-phenylethylamine increased the output of endogenous amine but the rise of blood pressure was small. Phentolamine did not influence either the release of catecholamines from the hypothalamus or the rise of blood pressure. Desipramine potentiated the effect of noradrenaline on the blood pressure and almost completely abolished the release by noradrenaline or adrenaline of radioactive compounds from the hypothalamus. 15 references. (Author abstract modified)

**120719 Langslet, Asbjorn.** Institute of Pharmacology, University of Oslo, Oslo, Norway Effects of chlorpromazine, d,l-propranolol, and d-propranolol in the isolated rat heart: modification of the response to isoprenaline and glucagon. *European Journal of Pharmacology (Amsterdam)*. 15(2):164-170, 1971.

In the isolated perfused rat heart d,l-propranolol inhibited the increase in cardiac rate, contractile force and phosphorylase activity caused by isoprenaline. In addition, d,l-propranolol also inhibited phosphorylase activa-

tion by glucagon without inhibiting inotropic and chronotropic responses. Chlorpromazine and d-propranolol inhibited phosphorylase activation by both isoprenaline and glucagon without blocking inotropic and chronotropic responses. It is concluded that the cardiac response to isoprenaline can be modified by drugs in two basically different ways. One is a specific interaction at the level of the receptor. The other, which occurs at high concentrations, is nonspecific and probably involves processes secondary to hormone receptor interaction. Modification of the cardiac response to glucagon by membrane stabilizers is also nonspecific. 30 references. (Author abstract modified)

**120819 Almgren, O.; Lundborg, P.** Department of Pharmacology, University of Goteborg, Goteborg, Sweden Correlation of the recovery of the granular uptake-storage mechanism and the nerve impulse induced release of (3H)noradrenaline after reserpine. *Journal of Pharmacy and Pharmacology (London)*. 23(9):671-677, 1971.

Rats were treated intraperitoneally with 10mg/kg reserpine; after various time intervals (3H)noradrenaline (3H-NA) was administered intravenously, and the uptake into subcellular fractions of the submaxillary gland was measured or, in some of the rats, the sympathetic chain of the neck was electrically stimulated with 10 impulses/s for 30 min; the release of 3H-NA and the contraction response of the lower eye-lid were measured. A striking parallel was observed between the recovery of the 3H-NA uptake into the amine storage particles and the nerve impulse induced release of 3H-NA, and also the recovery of the functional response. The somewhat earlier recovery of the 3H-NA uptake into the coarse fraction might reflect the existence of another type of amine storage granule or might represent granules present near the nerve cell membrane. A possible increase in the turnover of the adrenergic transmitter during the period of recovery after reserpine is discussed. 26 references. (Author abstract modified)

**120820 Fibiger, H. C.; Fox, M.; McGeer, E. G.; McGeer, P. L.** Kinsmen Laboratory of Neurological Research, Department of Psychiatry, The University of British Columbia, Vancouver 8, B.C., Canada The effect of amantadine on spontaneous locomotor activity in the rat. *Journal of Pharmacy and Pharmacology (London)*. 23(9):724-725, 1971.

A dose and time dependent increase in spontaneous locomotor activity was induced in rats by amantadine, a new antiparkinsonian agent. This action was antagonized by alpha-methyl-tyrosine, an antagonist of amphetamine induced locomotor stimulation. The drug resembles d-amphetamine in some of its actions on dopamine and noreadrenaline metabolism in the brain. In mice, amantadine appears to increase spontaneous locomotor activity only after reserpine treatment. 6 references.

120929 Shamsi, M. A.; Kulshrestha, V. K.; Dhawan, K. N.; Bhargava, K. P. Department of Pharmacology and Therapeutics, King George's Medical College, Lucknow-3, India Correlation of chemical structure of phenothiazines with their coronary dilator and antiarrhythmic activities. *Japanese Journal of Pharmacology (Kyoto)*. 21(6):747-754, 1971.

An evaluation of a number of phenothiazines simultaneously for coronary dilator and antiarrhythmic activities to make a possible correlation with their chemical structure is presented. Trifluopromazine, promethazine, chlorpromazine and promazine were found to be more potent while others were less active than nitroglycerin in increasing the normal coronary flow in isolated heart of rabbit. However, in posterior pituitary induced spastic coronary vessels, the promethazine and promazine were more potent whereas chlorpromazine and trifluopromazine were less potent than nitroglycerin in increasing the coronary flow. Promazine, promethazine, thioridazine, and chlorpromazine were more potent than quinidine in decreasing the maximum follow rate of rabbit atria whereas others were less potent. These drugs were also more potent, in most of the experiments than quinidine in abolishing the cardiac arrhythmias induced by various methods. Possible relation between chemical structure and coronary dilator and antiarrhythmic activities was discussed. 25 references. (Author abstract)

120930 Takagi, Keijiro; Watanabe, Minoru; Saito, Hiroshi. Department of Chemical Pharmacology. Faculty of Pharmaceutical Sciences, University of Tokyo, Bunkyo-ku, Tokyo, Japan Studies of the spontaneous movement of animals by the hole cross test; effect of 2-dimethylaminoethanol and its acyl esters on the central nervous system. *Japanese Journal of Pharmacology (Kyoto)*. 21(6):797-810, 1971.

Smaller changes of spontaneous movement in mice after the single administration of smaller doses of methamphetamine, caffeine, reserpine, and chlorpromazine which can not be found by usual methods for a separate animal, can be detected by the hole cross apparatus. 2-Dimethylamino ethanol (DMAE) and some of its acyl esters have two different actions on the spontaneous movements in mice; depression and excitation can be seen a short time after the single administration. The recovery of the depressed spontaneous movement of the reserpinized mice can be recognized after the single injection of DMAE and its acetate. 15 references. (Author abstract modified)

120961 Stein, Donald G. Clark University, Worcester, MA 01610 Effects of strychnine during different periods of development on maze learning in adult rats. *Communications in Behavioral Biology*. 6(5-6):335-340, 1971.

Male and female rats were given daily injections of 0.10 or 0.33mg/kg of strychnine or saline at 1-25, 25-50, or 50-75 days of age to determine whether chronic injections during development would improve performance when training began at 90 days. In males, 0.33mg/kg of strychnine disrupted performance when given 1-25 days of age, while given 25-50 days improved performance. In both males and females, saline given 25-50 days of age impaired performance with respect to the other groups; however, no drug induced improvement or disruption was observed in the females. In general, developmental administration of strychnine seems to reduce the disrupting effects of early stress and may alter attention and arousal mechanisms in the adult. 22 references. (Author abstract)

121065 de Moraes, S.; Carvalho, F. V. Dept. of Pharmacology, West Virginia University Medical Center, Morgantown, WV 26506 Analysis of the supersensitivity to noradrenaline induced by amphetamine in the isolated vas deferens of the rat. *Journal of Pharmacy and Pharmacology (London)*. 23(10):798-800, 1971.

An investigation of the specificity of amphetamine induced change in sensitivity to noradrenaline is presented. Isolated vasa deferentia of rats were studied. Dose response curves for noradrenaline and methoxamine obtained before and after exposure of the vas to amphetamine for 20 min followed by three washes

were compared. The horizontal shifts of the log dose response curves measured at the level of EC50 are statistically different only for noradrenaline. The exposure to amphetamine for 20 min did not alter the sensitivity of the vas to methoxamine. The evidence presented strongly favors the conclusion that amphetamine induces presynaptic supersensitivity to noradrenaline in the rat isolated vas deferens. Since methoxamine has a direct effect on alpha-receptors and is not taken up by adrenergic nerve endings it can be used as an experimental tool to test the role of the uptake process in the development of the phenomenon of supersensitivity. Amphetamine does not increase sensitivity to methoxamine. This observation is consistent with the view that amphetamine induced supersensitivity is probably due to an impairment of the uptake mechanism. Results seem to exclude a configurational change of the adrenergic receptors to explain the amphetamine induced supersensitivity. 24 references.

121258 Brookes, L.G.; Holmes, M.A.; Forrest, L.S.; Bacon, V.A.; Duffield, A.M.; Solomon, M.D. Department of Psychiatry, Stanford University School of Medicine, Palo Alto, CA Chlorpromazine metabolism in sheep. II. In vitro metabolism and preparation of 3H-7-hydroxychlorpromazine. *Aggriologie (Paris)*. 12(5):333-341, 1971.

Sheep liver microsomes incubated with chlorpromazine produced the normal spread of known metabolites of the substrate drug usually seen in vitro. They showed an outstanding capacity for 7-hydroxylation. The fresh microsomal preparations converted from one third to more than two thirds of the substrate into various 7-hydroxylated derivatives of chlorpromazine. Manipulation of storage conditions of the microsomal fractions prior to incubation with the drug substrate furthermore resulted in the production of nearly 70% of 7-hydroxychlorpromazine, at the expense of other nonphenolic and phenolic metabolites. Thus, in sheep liver microsomes, the pathways for 7-hydroxylation were found to be more resistant to deterioration in storage than those for demethylation, N-oxidation, and sulfoxidation. 18 references. (Author abstract)

122046 Lossner, B.; Matthies, H. Inst.fur Pharmakol.u.Toxicol.d.Med.Akademie Magdeburg, Magdeburg, Germany /The effect of phenyl-alkyl hydrazines on cat blood pressure./ *Die Wirkung*

von Phenyl-alkyl-hydrazinen auf den Blutdruck der Katze. *Acta Biologica et Medica Germanica (Berlin)*. 27(5/6):971-982, 1971.

The investigation of the effects of several phenyl-alkyl hydrazines on the blood pressure of the cat, as well as the degree of their pharmacological influence on these effects is presented. The MAO inhibitors, phenelzine, pheniprazine, Z 50, Ro 313, Z 102 and Z 87, when administered to a spinal cat i.v., resulted in a dose-dependent, brief transitory increase of mean blood pressure. Quantitative differences were observed between these compounds in their pressor effects, which were related to the chain length of their alkyl residues. It was possible to demonstrate that the pressor effect of the phenyl-alkyl hydrazines can be suppressed by the alpha-sympatholytic, dibenamine. Acetylation of the hydrazine group causes complete loss of pressor effects. Analogies between the phenyl-alkyl hydrazine derivatives and the indirect sympathomimetic action and MAO inhibitor effects on pressor response, are not to be interpreted on the basis of MAO inhibition of the hydrazine derivatives, but as a structure dependent action. 23 references.

122047 Oelszner, W.; Ebert, W.; Westermann, K.H. Institut fur Pharmakol.u.Toxicol.d.Med.Akademie 'Carl Gustav Carus', Dresden, Germany /Potentiation of barbital narcosis in mice by cholinomimetics and cholinesterase blockers./ *Die Potenzierung der Barbitalnarkose bei Mäusen durch Cholinomimetika und Cholinesteraseblocker. Acta Biologica et Medica Germanica (Berlin)*. 27(5/6):983-992, 1971.

The cholinergic potentiation of a subnarcotic dose of barbital was investigated by both subcutaneous (SC) and intracerebral (IC) injection of cholinomimetic drugs and cholinesterase blocking agents into mice. SC injections of arecoline, oxotremorine, pilocarpine, RS-86, nicotine, physostigmine, and paraoxon caused potentiation; intracerebral injection was significantly more effective except for pilocarpine. The tertiary substances tested showed a dose response potentiation of barbital narcosis, when injected SC; with IC injection equal effects were produced with lower doses. The effect is not due to increased penetration of barbital into the central nervous system by the direct injection of the agent into the cerebrum. Concomitant hypothermia causes an additional effect, but does not account for the

cholinergic potentiation of the narcosis. It would appear that the central cholinomimetics, analogous to the behavior in peripheral receptors, as with carbachol in IC injections react with muscarinic mechanisms. A statistically verified correlation exists between doses required for narcosis potentiation and those for nociceptive inhibition. 55 references. (Journal abstract modified).

**122048 Oelszner, W.; Westermann, K.H.; Eger, J.** Institut für Pharmakologie und Toxikologie, Lingnerplatz 1, 801 Dresden, Germany /The influence of antiparkinson agents upon subnarcotic and cholinergic potentiation of barbitol in mice./ Beeinflussung der subnarkotischen und der cholinerg potenzierten Barbitolwirkung durch Antiparkinsonmittel bei Mäusen. *Acta Biologica et Medica Germanica (Berlin)*. 27(5/6):993-999, 1971.

Barbital narcosis in mice, which is potentiated by pilocarpine and arecoline, was partly antagonized by scopolamine, atropine, beperidene, ethopropazine, and metixene. Benactyzine, trihexyphenidyl, caramiphen, diaethazine, promethazine, and methylatropine had no effect. All antiparkinson agents influenced the barbital narcosis in the same dose range in these mice. The partially antagonistic effect of some central cholinolytics against cholinergic potentiated narcosis is in the nature of a competitive displacement at central muscarinic receptors. These effects are complex and vary according to the antiparkinson drug used and to individual cerebral structures. 26 references. (Journal abstract modified).

**122536 Murphy, J.C.; Justice, J.B.; Carrier, O., Jr.** Dept. of Pharmacology, University of Texas Medical School at San Antonio, San Antonio, TX Acute diuretic response to guanethidine and reserpine. *Archives Internationales de Pharmacodynamie et de Therapie (Ghent)*. 194(1):56-67, 1971.

Blood and urine electrolyte changes were studied in dogs immediately after administration of 0.5mg/kg I.V. reserpine, 15mg/kg guanethidine or 5ml of reserpine placebo to see if tissue electrolyte loss was reflected in these fluids. Both reserpine and guanethidine produced an increase in urine volume and electrolytes. After reserpine blood sodium increased 10mEq/liter of plasma (7%) initially then dropped back to control levels. Other blood electrolytes were unchanged. Guanethidine did not effect any blood electrolyte

substantially. The diuretic and saluretic response produced by these drugs lasted only during the first two hours after administration. It is concluded that the electrolyte losses observed in these studies can account for the major amount of vascular tissue sodium and potassium lost after reserpine administration, and for a part of the calcium loss. 9 references. (Author abstract modified)

**122537 Pozos, R.S.; Holbrook, J.R.** Medical Education Program, Univ. of Minnesota, Duluth, MN 55812 Tremorogenesis: effects of reserpine on the substantia nigra. *Experimental Neurology*. 32(3):317-330, 1971.

A study of tremorogenesis (a parkinsonism like state) in the dog was made by means of moderate dosages of reserpine. Light microscope studies of the substantia nigra and autospectral analysis of the accelerometrically determined tremor were performed. Tremor measurements and histological studies were performed four hours after a single injection of reserpine and four hours after the last of four daily injections of reserpine. Some animals were allowed to survive for observation of additional signs of parkinsonism. The drug induced tremor in the dog was compared with autospectrally analyzed tremor measurements on clinically evaluated Parkinson's disease patients. The administration of reserpine did not evoke a parkinsonian tremor frequency. Instead, a high frequency tremor was produced. Alterations in arrangement of the Nissl substance, cytoplasmic vacuolization, and nuclear lobulation were produced by all dosages of reserpine, and could not be correlated with the occurrence of experimental tremor. It is hypothesized that such cellular alterations may briefly disrupt neuronal metabolic processes which are then reflected as a transitory nigral dysfunction related to gamma - alpha imbalance at spinal levels. Such an imbalance may contribute to the genesis of tremor. 33 references. (Author abstract)

**122540 Krenis, L.J.; Liu, P.L.; Ngai, S.H.** Dept. of Anesthesiology, Columbia Univ., College of Physicians and Surgeons, New York, NY 10032 The effect of local anesthetics on the central nervous system toxicity of hyperbaric oxygen. *Neuropharmacology (Oxford)*. 10(5):637-641, 1971.

The effect of local anesthetics on the CNS toxicity of hyperbaric oxygen in mice was investigated. Lidocaine and cocaine in subconvul-

sant doses protected mice against CNS toxicity during exposure to hyperbaric oxygen. Lidocaine and cocaine did not significantly change whole brain concentrations of norepinephrine, dopamine or serotonin. The mechanism of this protection is unknown, as is the mechanism of hyperbaric oxygen toxicity itself, but both may involve changes in the brain monoamine systems, or changes in the excitability of neuronal membranes. (Author abstract)

**122541** Lalley, P.M.; Rossi, G.V.; Baker, W.W. Dept. of Pharmacology, School of Medicine, Univ. of Pittsburgh, Pittsburgh, PA 15213 Alterations in tremor regulation after intracaudate injections of calcium ions or disodium edetate. *Neuropharmacology (Oxford)*. 10(5):613-619, 1971.

Microinjections of calcium ( $\text{Ca}^{++}$ ) into the caudate nucleus of chronic cats inhibited tremors previously established by intracaudate physostigmine or carbamylcholine. The tremor inhibitory effects of  $\text{Ca}^{++}$  are attributed to a dual local action: a membrane stabilizing action which was unaffected by local propranolol pretreatment, and a propranolol sensitive component which was similar in its inhibitory profile to microinjected dopamine. In contrast to the effects of  $\text{Ca}^{++}$ , disodium edetate elicited pronounced acute tremors which were inhibited by  $\text{Ca}^{++}$  or dopamine. Calcium disodium edetate produced no acute effects, but like disodium edetate, subsequently led to chronic tremor activity which persisted for months after single intracaudate injections. Chronic tremor activity is attributed to irreversible membrane effects, possibly involving cholinesterase. 18 references. (Author abstract)

**122542** Costall, B.; Olley, J.E. School of Studies in Pharmacology, Univ. of Bradford, Bradford BD7 1DP, England Cholinergic and neuroleptic induced catalepsy: modification by lesions in the globus pallidus and substantia nigra. *Neuropharmacology (Oxford)*. 10(5):581-594, 1971.

Cholinergic and neuroleptic induced catalepsy modified by lesions in the globus pallidus and substantia nigra was investigated in rats. Bilateral pallidectomy completely abolished haloperidol catalepsy but did not significantly modify arecoline catalepsy. Synergism between the two drugs was not apparent after pallidectomy. Chronic bilateral ablation of the substantia nigra caused marked reduction in the catalepsy induced by both haloperidol and arecoline when used

either alone or in combination. However, during the first week after nigral ablation the cataleptic effect of both drugs was potentiated, after which time the effect rapidly diminished. Similarly, the tremor induced by arecoline was potentiated during the first few days after bilateral nigral ablation and was subsequently abolished. During this period when potentiated cataleptic and tremorogenic effects were observed, animals exhibited constant stereotyped behavior which was inhibited only by large doses of haloperidol. Unilateral lesions produced similar but less complete effects. Results from these and previous experiments indicate that the caudate putamen and substantia nigra are involved in the mechanism by which cholinergic drugs can mimic and synergize with neuroleptic drugs. It appears that the globus pallidus is not involved in the mediation of the arecoline effect but its integrity is important for the action of haloperidol. Results are discussed in terms of drug effects upon possible cholinergic and dopaminergic pathways in the pallido-striato-nigral system. 22 references. (Author abstract modified)

**122543** Craig, A.L.; O'Dea, R.F.; Takemori, A.E. Dept. of Pharmacology, Univ. of Minnesota, College of Medical Sciences, Minneapolis, MN 55455 The uptake of morphine by the choroid plexus and cerebral cortical slices of animals chronically treated with morphine. *Neuropharmacology (Oxford)*. 10(6):709-714, 1971.

The transport of morphine in vitro and in vivo by the choroid plexus in rabbits chronically treated with morphine is discussed. The in vitro uptake of morphine by the choroid plexus of tolerant rabbits did not differ from that of non-tolerant rabbits. The choroid plexus readily accumulated morphine from the systemic circulation against a concentration gradient in vivo. The in vivo uptake of morphine by the choroid plexuses was not altered with the development of tolerance. The transport of morphine in cerebral cortical slices of tolerant rats did not differ from that of nontolerant rats. It appears unlikely that the carrier mediated transport systems for morphine in the choroid plexus or cerebral cortical slices play a role in the development of tolerance to morphine. 8 references. (Author abstract)

**122546** Atack, Colin. Dept. of Pharmacology, Univ. of Goteborg, Fack.S-400 33 Goteborg 33, Sweden Reduction of histamine in mouse brain by

N1-(DL-seryl)-N2-(2,3,4-trihydroxybenzyl) hydrazine and reserpine. *Journal of Pharmacy and Pharmacology (London)*. 23(12):992-993, 1971.

The reduction of histamine in the mouse brain by reserpine and by N1-(DL-seryl)-N2-(2,3,4-trihydroxybenzyl) hydrazine (Ro 4-4602) is reported. The significant depletion of histamine by reserpine alone is small (about 11%), but a similar depletion (about 15%) was obtained after the combined administration of reserpine and Ro 4-4602 compared to the depletion caused by Ro 4-4602 alone (about 34%) which was highly significant. The possibility that this latter reduction is related to the concomitant lowering of the monoamines by the Ro 4-4602 is unlikely, since many drugs known to alter the concentrations of the monoamines in mouse brain were without effect on the histamine concentrations. It was suggested that the reduction of histamine concentration was caused by the inhibition of an enzyme converting histidine to histamine. 10 references.

122547 Corrodi, H.; Fuxe, K.; Ungerstedt, U. Department of Pharmacology, University of Göteborg, Göteborg, Sweden Evidence for a new type of dopamine receptor stimulating agent. *Journal of Pharmacy and Pharmacology (London)*. 23(12):989-991, 1971.

A new type of dopamine receptor stimulating agent, 7-(2'-pyrimidyl)-4-piperonyl-piperazine (ET495) was examined in rats. ET495 and/or an active metabolite were shown to be a dopamine receptor stimulating agent with powerful and prolonged actions as revealed in both the amine turnover and the rotational model. In both these models the drug mimics the effects of apomorphine, but not that of amphetamine, by reducing dopamine turnover and causing stimulation of the dopamine receptors in the denervated neostriatum. The reduction of dopamine turnover is probably the result of the dopamine receptor stimulation inducing a compensatory feedback to reduce activity in the dopamine neurons. In higher doses an increase in the noradrenaline turnover was found which may be secondary to the dopamine receptor stimulation or due to a direct action of ET495 on the noradrenaline neurons. Results suggest ET495 has potential in the treatment of parkinsonism. 17 references. (Author abstract modified)

122548 Cavero, Icilio; Jandhyala, Bhagavan S.; Buckley, Joseph P. Dept. of Pharmacology, School

of Pharmacy, Univ. of Pittsburgh, Pittsburgh, PA 15213 Prolonged effects of reserpine administration on adrenoceptor activity in dogs. *Journal of Pharmacy and Pharmacology (London)*. 23(12):988-989, 1971.

Prolonged effects of reserpine administration on adrenoceptor activity was examined in dogs. A fivefold increase in the sensitivity of the alpha-adrenoceptors in the femoral arterial strips of the reserpine treated dog was found; no such alteration was noted in the receptor sensitivity in the mesenteric strips from the same animals. It seems that adrenoceptor sensitivity in vascular tissues or beds is not uniformly influenced by chronic reserpine treatment. Prolonged reserpine treatment did not produce any qualitative or quantitative alteration in receptors. 7 references.

122549 Boyaner, H.G.; Radouco-Thomas, S. Dept. of Pharmacology, Faculty of Medicine, Laval Univ., Quebec 10, Canada Effect of calcium on reserpine-induced catalepsy. *Journal of Pharmacy and Pharmacology (London)*. 23(12):974-975, 1971.

The effect of high calcium pretreatment on reserpine induced catalepsy was studied in the rat. Calcium pretreatment was found to result in a slower progression and an attenuation of the reserpine induced catalepsy. The attenuation of the reserpine induced catalepsy by exogenous calcium could be due to its inhibition of reserpine induced depletion of cerebral dopamine as well as noradrenaline and 5-hydroxytryptamine. 9 references.

122550 Chahl, Loris A.; O'Donnell, Stella R. Dept. of Veterinary Pharmacology, Royal (Dick) School of Veterinary Studies, Univ. of Edinburgh, Summerhall, Edinburgh 9, Scotland Potentiation by cocaine of responses of the guinea-pig isolated tracheal chain to ethylnoradrenaline and alpha-methylnoradrenaline. *Journal of Pharmacy and Pharmacology (London)*. 23(12):965-966, 1971.

Potentiation by cocaine of the responses of the guinea pig isolated tracheal chain to ethylnoradrenaline (ENA) and alpha-methylnoradrenaline (AMNA) was investigated. An assessment of the true potency of the three drugs on the beta-adrenoreceptors of the tissue was made. The (L)-isomer of noradrenaline (NA) and the racemic ENA and AMNA with corrections for potency values made for the presence of the inactive (D)-isomer were studied. In the presence of cocaine, the three drugs were equipotent. The

block of the concentration response line by propranolol was examined in the absence and presence of cocaine and ENA was always blocked more than AMNA and NA. 3 references.

**122551** Coldwell, B.B.; Trenholm, H.L.; Thomas, B.H.; Charbonneau, S. Research Laboratories, Food and Drug Directorate, Dept. of National Health and Welfare, Ottawa, Canada The effect of ethanol on phenobarbitone and pentobarbitone absorption into rat blood and brain. *Journal of Pharmacy and Pharmacology (London)*. 23(12):947-949, 1971.

The effect of ethanol on phenobarbitone and pentobarbitone absorption into the blood and the brain was studied in the rat. Male rats administered (14C)phenobarbitone (50mg/kg) or (14C)pentobarbitone (30mg/kg) simultaneously with either 15% ethanol (3g/kg) or saline intraperitoneally were killed 5, 10 or 20 min after injection. The radioactivity in the blood, whole brain and different brain areas was measured. Phenobarbitone was absorbed more slowly into the blood and brain than pentobarbitone. Ethanol treated rats had significantly higher phenobarbitone concentrations than the saline treated controls in the blood, whole brain, cerebrum and cerebellum up to 10 min after injection. Pentobarbitone concentrations were not significantly altered by ethanol. Barbiturate concentrations in the cerebral cortex were lower than in other regions of the brain. The brain - blood barbiturate ratios were not appreciably changed by ethanol. It is concluded that ethanol (15%) given intraperitoneally aided the transport of phenobarbitone across the peritoneum and hence increased the rate of its absorption into the blood and brain. 9 references. (Author abstract modified)

**122553** Chang, C.C.; Wang, Wuan-Hsiang. Pharmacological Institute, College of Medicine, National Taiwan Univ., Taipei, Taiwan, Republic of China Antagonism by propranolol of the inhibitory effect of phenoxybenzamine on noradrenaline uptake in vivo. *Journal of Pharmacy and Pharmacology (London)*. 23(12):911-917, 1971.

The reduction of noradrenaline stores and (3H)noradrenaline concentration in the heart of mice and rats induced by phenoxybenzamine treatment, alone or in combination with cold stress, was prevented by propranolol. Propranolol also antagonized a similar effect induced by phenolamine but not that induced by other

noradrenaline uptake inhibitors, such as desipramine, cocaine, guanethidine and reserpine. Analysis of the time course of antagonism by propranolol indicates that it was evident only when the beta-adrenoceptor blocking agent remained in the body. The inhibitory effect of phenoxybenzamine on noradrenaline stores reappeared when propranolol was excreted. Propranolol alone did not change cardiac noradrenaline stores or (3H)noradrenaline. It is concluded that the restoration of reflexly increased adrenergic discharge to normal, because of unmasking of spare alpha-adrenoceptors resulting from beta-adrenoceptor blockade by propranolol rather than competition for binding at the active site of phenoxybenzamine, is responsible for the observed antagonism. 35 references. (Author abstract)

**122576** Von Bahr, Christer; Orrenius, Sten; Sjoqvist, Folke. Department of Pharmacology, Division of Clinical Pharmacology, Karolinska Institute, Stockholm, Sweden Interaction of imipramine, desmethylinipramine, nortriptyline, and 1-naphthol with microsomal preparations. *Chemico-Biological Interactions (Amsterdam)*. 3(4):243-244, 1971.

The interaction of imipramine (IP), desmethylinipramine (DMI), nortriptyline (NT) and 1-naphthol with microsomal preparations from rats was investigated. IP and ip metabolites 2-OH-IP and 2-OH-DMI, induced a type 1 spectral change when added to liver indicating that they bind to P-450 with high affinity. Pretreatment of rats with phenobarbital did not increase the rate of formation of 10-OH-NT. The demethylation of aminopyrine was enhanced. Pretreatment with benzo(a)pyrene enhanced the formation of 10-OH-NT. Both NT and DMI gave rise to the type 1 spectral change in control microsomes and in microsomes from benzo(a)pyrene treated rats. Preliminary experiments reveal that nortriptyline and desmethylinipramine are hydroxylated in the 105 000 xg pellet. 2 references.

**122577** Bickel, M.H.; Gigon, P.L. Medizinisch-chemisches Institut, University of Berne, Berne, Switzerland Intracellular binding and metabolism of imipramine and imipramine-N-oxide. *Chemico-biological Interactions (Amsterdam)*. 3(4):245-246, 1971.

A comparison of cellular transport, metabolism, and binding of imipramine and imipramine-N-

oxide and of exogenously added and endogenously formed imipramine-N-oxide was studied in rats. Both binding capacity and binding strength of microsomes are high for imipramine and low for imipramine-N-oxide. When an NADPH generating system is added to the liver microsomal suspension, added imipramine leads to the metabolic formation of desmethylinipramine and imipramine-N-oxide. Again, both binding capacity and binding strength of imipramine are high and those of imipramine-N-oxide low. Thus, the same characteristics are observed for exogenously added and for metabolically formed imipramine-N-oxide. This metabolite is therefore released from the microsomal membrane and also from the cell into the extracellular medium. 6 references.

**122580** Burstein, S.H.; Kupfer, D. Worcester Foundation for Experimental Biology, Shrewsbury, MA Hydroxylation of trans-delta1-tetrahydrocannabinol by a hepatic microsomal monooxygenase. *Chemico-Biological Interactions* (Amsterdam). 3(4):316, 1971.

The 7-hydroxylation of trans-delta1-tetrahydrocannabinol by rat liver microsomal preparations on the nature of this enzymatic activity is described. The microsomal 7-hydroxylating activity was enhanced by the addition of the 100000g supernatant, the supernatant alone had no such activity. The 7-hydroxylating activity appears to be of the monooxygenase type as demonstrated by the requirements for an NADP and NADPH generating system and by the need for oxygen in the gas phase. Furthermore, carbon monoxide was found to almost entirely inhibit the 7-hydroxylation of delta1-THC, suggesting the possible involvement of cytochrome P-450 in the hydroxylation. As with other previously reported monooxygenase activities, the 7-hydroxylation of delta1-THC was more pronounced with microsomes from male rats than from female rats.

**123262** Agurell, S.; Nilsson, I.M.; Widman, M.; Sandberg, F. Department of Pharmacology, Faculty of Pharmacy, Stockholm, Sweden Metabolic fate of cannabinoids in rabbit and rat. *Acta Pharmacologica et Toxicologica* (Kobenhavn). 29(Supplement 4):48, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, delta-tetrahydrocannabinol-C14 (delta(1)-THC-C14), synthetically was reported to be rapidly dis-

tributed in the body after injection in the rabbit. The half-life of radioactivity in blood being about 15 min. The distribution of radioactivity in tissues reflected the elimination of delta(1)-THC through liver and kidneys. Brain and spinal cord showed the lowest activity levels of all the investigated tissues. Three days after administration high levels of radioactivity still persist in body fat and spleen. After injection in the rabbit, delta(1)-THC was rapidly converted to more polar metabolites, at least two of them appearing in the urine. Delta(1)-THC was also metabolized in vitro with the supernatant from rabbit liver. By MS and NMR spectrometry the major metabolite was identified as 7-hydroxy-delta(1)-THC. Experiment in mice showed that this compound is an active metabolite, the same as an ether soluble metabolite found in liver half an hour after injection of delta(1)-THC in the rabbit. 7-Hydroxy-delta(1)-THC is not excreted as such in the urine of the rabbit. It is conjugated and also probably further oxidized to the corresponding acid before excretion. The binding of delta(1)-THC and 7-hydroxy-delta(6)-THC to human plasma proteins has been investigated in vitro by different electrophoretic techniques. (Author abstract)

**123264** Squires, R.F. Research Laboratories, A/S Ferrosan, Copenhagen, Denmark On the decrease in concentration of 5-HIAA in rat brain by imipramine and related substances. *Acta Pharmacologica et Toxicologica* (Kobenhavn). 29(Supplement 4):56, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, imipramine and related thymoleptics were reported to reduce the turnover of 5-HT in brain and imipramine can also reduce the concentration of 5-HIAA in rat brain. Imipramine can partly prevent the increase in rat brain 5-HIAA induced by hyperthermia (high environmental temperature), as well as the increase in 5-HIAA after L-tryptophan loading regardless of whether imipramine is administered before or after L-tryptophan. Highly significant decreases in rat brain 5-HIAA were also produced by chlorimipramine, amtryptiline, nortriptyline and chlorpheniramine. The results appear to be consistent with the hypothesis that these substances act by blocking the reuptake of 5-HT into 5-HT nerve terminals, thus increasing the stimulation of the postsynaptic 5-HT receptor and activating a little understood negative feedback mechanism which inhibits the activity of 5-HT neurons. (Author abstract)

123266 Norn, S.; Shore, P.A. University of Copenhagen, Juliane, Mariesvej 20, 2100 Copenhagen, Denmark Binding and location of reserpine (R). *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):41, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, the binding and location of reserpine (3H-R) was reported. 3H-R was injected into rats, and drug levels measured in heart, spleen, adrenal glands, and small intestine. In both cases, all tissues showed a first order R decline, terminating about 24 to 30 hrs after injection. Following this, a semipermanent binding persisted for many days. Experiments with high doses of unlabeled R, given 18 or 30 hrs after the labeled drug, reveal that at the 18 hr time, a portion of the drug is reversibly bound, whereas at the 30 hr time, the drug is irreversibly bound. It is suggested that the reversibly bound phase is associated with blockade of the granule amine carrier mechanism, while the irreversible phase is associated with permanent damage to the granular amine storage mechanism. Rats, pretreated with 6-hydroxydopamine (6-HODA) to destruct adrenergic nerve terminals, showed a decrease in noradrenaline content of heart and small intestine by 73% and 67%. Other rats, pretreated with 6-HODA decreased the 3H-R content in heart and small intestine by 64% and 58%. These results suggest that the majority, if not all, of bound R is localized in adrenergic nerve terminals. In rats, pretreated with 3H-R, stimulation of adrenergic nerve activity by either phenoxylbenzamine, insulin or cold stress, and inhibition of the nerve activity by ganglionic blockade (chlorisondamine), did not, when measured after 24 hrs, affect the R levels in heart, small intestine, spleen and adrenals. Therefore, irreversibly bound R cannot be attached to a granule component releasable by nerve stimulation, but it may be bound to the granule membrane. (Author abstract)

123267 Fernandes, M.; Rating, D.; Kluwe, S. Institut für Neuropsychopharmakologie der Freien Universität, 1 Berlin 19, Ulmenallee 30, Germany The influence of subchronic tetrahydrocannabinol - and cannabis treatment on food - and water - intake, body weight and body temperature of rats. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):89, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, the influence of subchronic tetrahydrocannabinol and cannabis

treatment on food and water intake, body weight and body temperature of the rat was reported. A single injection of an extract of cannabis resin (containing 5mg/kg THC, 4, 5mg/kg cannabinalol, 10, 5mg/kg cannabidiol, and 0, 5mg/kg unknown substances) reduced the body weight of male rats. The daily intake of food and water was also reduced by 20% and 25% respectively. Daily injections of cannabis caused a maximum inhibition of food and water intake by the 4th to 6th day, and returns to its normal level on the 11th day. Similar observations were recorded after treatment of rats with 5mg/kg delta(8)-THC. The loss of body weight and the reduction of food intake caused by THC reached its maximum on the 2nd day of treatment and returned to control level on the 8th day. The effect of THC on water intake has not been recorded. The cannabis resin at the same dose level in this experiment delayed the excretion of orally administered tap water. However, this effect was abolished after ten daily injections. Intra peritoneal injection of delta(8)-THC lowered the body temperature of rats. This effect was less marked when the rats were treated subchronically with THC. (Author abstract)

123268 Breyer, U.; Krau D. Institut für Toxikologie, Universität Tübingen, 74 Tübingen, Germany Accumulation of metabolites during chronic application of the neuroleptic drug perazine to rats. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):7, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, the accumulation of metabolites during chronic application of the neuroleptic drug perazine to rats was reported. Male rats were given 2 x 25mg/kg or 2 x 50mg/kg perazine (methyl-piperazinyl-propyl-phenothiazine) daily. After various time intervals they were killed, and levels of perazine and its metabolites in several organs were determined by extraction and thin layer chromatography followed by UV spectroscopy. Besides desmethyl perazine, a novel metabolite was found to accumulate during treatment. The structure of this compound could be elucidated by mass spectrometry, IR and NMR spectroscopy. The metabolite has a remarkably long half-life in the rat organism, as could be shown by following the decline of its concentration in various organs after termination of the perazine treatment. Concomitant study of the elimination of perazine metabolites in urine led to the identification of a further degradation product. (Author abstract)

123269 Ahlenius, S.; Engel, J. Department of Pharmacology, Fack, S-400 33, Gothenburg 33, Sweden Potentiation of haloperidol by tyrosine hydroxylase inhibition. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):12, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, the effect of haloperidol, a butyrophenone derivative, after pretreatment with H 44/68, a tyrosine hydroxylase inhibitor, on food, reinforced operant behavior (fixed-ratio 40 to 1) in humans was reported. Drugs of the phenothiazine and butyrophenone group have been shown to depress different kinds of human and animal behavior. These effects are thought to be connected with the ability of these drugs to block postsynaptic receptors in the central catecholamine neurons, resulting in an increased catecholamine turnover. The intraperitoneal injections of haloperidol in doses that had no effects per se, resulted in a marked depression of the behavior studied when given after subthreshold doses of H 44/68. The obtained results are indicative of a mechanism of potentiation and are discussed when given after subthreshold doses of H 44/68. The obtained pre and postsynaptic neurons. (Author abstract)

123272 Squire, R.F.; Lassen, J.Buus. Research Laboratories, A/S Ferrosan, Copenhagen, Denmark Biochemical and pharmacological properties of p-amino-gamma-morpholinobutyrophenone (FG 5310), a new selective MAO inhibitor. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):56, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, the biochemical and pharmacological effects of FG-5310 (gamma-morpholinobutyrophenone), a selective MAO inhibitor were reported. FG-5310 is a more potent reserpine antagonist in rats and mice than NSD-2023 (another MAO inhibitor), and has a somewhat stronger anticonvulsant activity, also of short duration. FG 5310 produces selective MAO inhibition of longer duration than that produced by NSD-2023. In vivo both FG 5310 and NSD 2023 show strongest MAO inhibition with kynuramine as substrates. In vitro, both NSD-2023 and FG 5310 are much weaker and less selective MAO inhibitors than they are in vivo, suggesting that active metabolites of both substances are responsible for the selective inhibition in vivo. In contrast to NSD 2023, a single dose of FG-5310 does not produce a significant increase in 5-HT or

a significant decrease in 5-HIAA in rat brain. Combined with L-tryptophan, neither NSD 2023 nor FG 5310 produces the behavioral changes seen in mice after nialamide or isocarboxazide combined with L-tryptophan (jerky hyperactivity, tremor, abduction of hind legs, head movements). (Author abstract)

123273 Kuschinsky, K. Max-Planck-Institut für experimentelle Medizin, Dept. of Biochemical Pharmacology, D-3400 Gottingen, Hermann-Rein-Str.3, Bundesrep, Germany Effect of morphine on protein synthesis in synaptosomes and mitochondria of mouse brain. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):28, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, the effect of morphine on incorporation of <sup>14</sup>C-leucine into proteins of synaptosomes and mitochondria of mouse brain in vivo was reported. The animals were injected with 100mg/kg morphine or with saline respectively, and 15 min later with L-leucine 1-<sup>14</sup>C. Four hours after this injection, the animals were killed and the subcellular fractions of the brains prepared, and the proteins precipitated. Morphine significantly decreased the uptake of <sup>14</sup>C-leucine into the synaptosomes by about 20%. It did not affect the uptake into the mitochondria, however. The effect was dose dependent and could be prevented by maloxone. Barbitol, 200mg/kg given instead of morphine, depressed the incorporation of <sup>14</sup>C-leucine into synaptosomes and mitochondria both by about 15%. Thus the inhibitory effects of both substances differ in their patterns. The depressing effect of morphine on uptake of <sup>14</sup>C-leucine into the synaptosomes in vivo is probably due to inhibition of axoplasmic transport of proteins, and is an effect of higher specificity than that of barbitol. (Author abstract)

123277 Lassen, J.Buus. Department of Pharmacology, A/S Ferrosan, Copenhagen, Denmark Behavioural effect of amantadine in rats after inhibition of monoamine synthesis, storage and receptorinteraction. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):30, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, the behavioral effect of amantadine in rats was reported. After 25-50mg/kg increased locomotion, sniffing, rearing, head twitch and spells of rapid grooming with forelegs was observed. The same

symptoms and a weak tremor was registered after 100mg/kg. The effect of amantadine 50-100mg on locomotor activity was investigated after administration of various drugs interfering with monoamine function. Aceperone 10mg/kg, spiramide 0.1mg/kg and perphenazine 0.2mg inhibited the amantadine induced hyperactivity. Reserpine 7.5mg/kg and alpha-methyl-p-tyrosine (H44/68) 250mg/kg exerted partial inhibition. Reserpine plus H44/68 or tetrabenazine potentiated the effect of amantadine. The amantadine induced hyperactivity in rats pretreated with reserpine plus H44/68 or tetrabenazine could not be blocked by scopolamine, suggesting that this behavior is not due to a central cholinergic predominance but to a direct stimulation of adrenergic receptors. The stimulant effect of amantadine in rats does not show clear resemblance to the effect of known stimulant drugs. No stereotyped licking or gnawing was found even after high doses of amantadine. (Author abstract)

123278 Kretschmar, R.; Teschendorf, H.J.; Ladous, A.; Ettehadieh, D. Pharmakologisches Institut d. Universität, 78 Freiburg, Germany On the sedative action of the kava rhizome (piper methyst.). *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):26, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, the effect of the isolated pyrone constituents kavain, methysticin, dihydromethysticin and yangonin on the skeletal muscle tone of unanesthetized rabbits, electromyographically measured from the calf muscle during periods of a constant flexion of a paw was reported. Their action on the electrical activity of cortical and subcortical brain structures of rabbits was examined. All the kavapyrones showed a strong centrally caused muscle relaxing activity. Yangonin proved to be the most potent kavapyrone. The EMG impulses were nearly completely depressed by 5-10mg/kg. With relaxing doses of the pyrones high voltage synchronized waves developed in the cortical EEG with only slight diminution in frequency. They further depressed without completely abolishing the electrically and acoustically induced arousal reaction and significantly shortened the duration of the afterdischarges following the electrical stimulation of the dorsal hippocampus. The results indicate, that the sedative effect of the drug in man probably is the consequence of both the depression of muscle tone and the

depression of the cortical activation system and limbic areas by the pyrone compounds. (Author abstract)

123279 Gothgen, I.; Edelfors, S. University of Copenhagen, Department of Pharmacology, 20 Juliane Maries Vej DK 2100, Copenhagen O., Denmark Investigations on the electrolyte contents of anatomically defined parts of the brain in normal and lithium - treated rats. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):18, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, a study of the electrolyte contents of small and anatomically well defined parts of the brain in normal and lithium treated rats was reported. By the applied technique of dissecting reproducible results were obtained with very little biological variation. On basis of the results emphasis is put to the advantage of expressing the results in total amounts per the various brain parts instead of the more commonly used relative figures. (Author abstract)

123280 Genefke, I.K.; Langgard, H. Department of Pharmacology, University of Copenhagen, Copenhagen, Denmark Lithium induced inhibition of the 5-hydroxytryptamin uptake in vitro by rat thrombocytes. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):17, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, lithium induced inhibition of 5-hydroxytryptamine uptake in the thrombocytes of rat was reported. Rat thrombocytes were incubated in plasma at 37 degrees for 30 minutes in an oxygen atmosphere containing 5% CO<sub>2</sub>. Previous to the incubation, lithium and 5-hydroxytryptamine were added in the concentrations of 0.4-20 meq/l and .00007 M respectively. Lithium was found to inhibit the active uptake of 5-HT. At 5 meq/l the inhibition was 20-32%, at 10 meq/l 46-50% and at 20 meq/l 63-78%. Thrombocytes from rats treated with lithium for 2-55 days were incubated with 5-HT. At no time were there any difference between the lithium treated and the control animals. (Author abstract)

123281 Fyro, B.; Nyback, H.; Sedvall, G. Department of Psychiatry, S:t Gorans Hospital, Karolinska Institutet, Stockholm, Sweden Effects of nigral lesion and chlorpromazine treatment on tyrosine hydroxylase activity in corpus striatum of the rat. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4): 16, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, tyrosine hydroxylase activity in sucrose extracts of rat corpus striatum determined by measuring the formation of tritiated water from 3,5-3H-L-tyrosine was reported. Rats were subjected to unilateral stereotaxic lesions in the crus cerebri at the level of the corpus mamillare where the nigro - neostriatal dopamine pathway is known to pass. Four days after the operation, the activity of tyrosine hydroxylase as well as the content of dopamine in corpus striatum on the side of the lesion was reduced to about 10% of that of the intact side. Following acute and chronic treatment with chlorpromazine, the synthesis of 14C-dopamine from administered 14C-tyrosine was accelerated several fold. The tyrosine hydroxylase activity in the corpus striatum was not significantly altered following acute or chronic chlorpromazine treatment. The results indicate that chlorpromazine accelerates dopamine synthesis in the corpus striatum by other mechanisms than by altering the level of tyrosine hydroxylase in the tissue. (Author abstract)

**123282 Frisk-Holmberg, M.** Department of Pharmacology, Karolinska Institutet, S-104 01, Stockholm 60, Sweden The interference of tricyclic psychoactive drugs on the uptake of biogenic amines by isolated mast cells. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):14, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, a study of the uptake mechanisms of 5-hydroxytryptamine (5-HT), dopamine (DA), noradrenaline (NA) and histamine (Hi) and the interference of the tricyclic psychoactive drugs (chlorpromazine, derivatives and anti-depressant drugs) was reported. Rat mast cells were incubated with 14C-labelled amine for 10 min washed and the radioactivity measured in final sediments. Drugs were added to cells before labelled amines. The uptake of 5-HT and DA was saturable at low extracellular amine concentrations and could be described by a Lineweaver-Burke representation of the Michaelis-Menten kinetics. NA uptake was saturable at higher concentrations but the Hi uptake was not saturated within the concentrations range used. The uptake rates of the saturable uptake processes were reduced by metabolic inhibitors and increased by increasing temperature, stimulated by  $Ca^{++}$ . It is suggested that the uptake of 5-HT and DA primarily involved an active transport, whereas

the uptake of NA preferentially operates by facilitated diffusion and Hi by diffusion. Chlorpromazine competitively blocked the uptake of 5-HT and DA and reduced the uptake rates of the other amines. The drugs investigated had different affinities to the uptake sites. It is concluded that mast cells accumulate amines by active transports mechanisms and diffusion and that tricyclic psychoactive drugs interfere with both processes. (Author abstract)

**123283 Aquilonius, S-M.; Flentge, F.; Schuberth, J.; Sparr, B.; Sundwall, A.** Res.Inst.Natl.Def., Stockholm, Sweden In vivo incorporation of labelled choline and acetylcholine in the vesicles of brain nerve-endings. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):57, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, the time course for the appearance of labelled Ch and ACh in vesicles and cytosol of animal brain synaptosomes following intravenous injection of labelled Ch in mice was reported. After injection of 3H-methyl-Ch the animals were killed by decapitation and the crude mitochondrial fraction (P2) containing the synaptosomes was isolated from a whole brain sucrose homogenate by differential centrifugation. After lysis of the P2 fraction in water the clear solution was separated on a Sephadex column into a high and low molecular fraction. Labeled Ch and ACh were isolated by high voltage paper electrophoresis and the radioactivity measured. Endogenous ACh was bioassayed on the leach. It was found that 1, 3 and 15 min after injection the ration 3H-ACh to 3H-Ch was 5.5, 3.0 and 2.9 in the high and 0.5 in the low molecular fraction. Control experiments with labeled ACh or Ch added to homogenates of brains from untreated mice revealed that all radioactivity was present in the low molecular fraction and less than 1% in the high molecular fraction. The specific activity of the ACh was at the same time intervals 11.3, 9.0 and 2.8 in the high and 6.5, 5.9 and 3.0 in the low molecular fraction. From the experiments it seems evident that ACh, newly synthesized in the brain from plasma Ch, is very rapidly incorporated in some high molecular compound or cell -organell of the nerve endings, presumably the vesicles. (Author abstract)

**123284 Rating, D.; Honecker, H.; Broermann, I.; Strauss, S.** Institute fur Neuropsychopharmakologie der Freien Universitat, 1 Berlin 19, Ulmenallee 30,

Germany Hexobarbital-sleeping time and amphetamine motility after subchronic tetrahydrocannabinol-treatment. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):92, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, hexobarbital sleeping time and amphetamine motility after subchronic tetrahydrocannabinol (THC) treatment in rats was reported. Delta (8)-THC prolongs hexobarbital sleeping time (control=119 min, p 0,0027). The enhancement of hexobarbital sleeping time by THC is significantly reduced after nine days treatment with 5 mg/kg THC. Acute or subchronic treatment of THC did not alter the elimination of hexobarbital from brain or blood of rats. d-Amphetamine-sulphate enhanced locomotory and exploratory activity in rats, while higher doses lead to a period of strong stereotyped behavior without any locomotion; the rats are fixed. The stereotyped behavior is preceded and followed by the above mentioned enhanced locomotory and exploratory activity. Using a photocellactivity box the fixation was found to be dose related. Delta(8)-THC shifts the dose response relationship towards lower amphetamine doses. This effect may be interpreted as an enhancement of amphetamine effect. However, after 10 days treatment with Delta(8)-THC this enhancing effect is almost abolished. Neither enhancement nor abolition of THC effect can be explained by an altered amphetamine elimination. (Author abstract)

123287 Olsson, S.O.; Schroid, J. Research Laboratories, Ferrosan, Malmo, Sweden A comparison of FG 5310, a new selective monoamine oxidase inhibitor, and other MAO inhibitors on the blood pressure response to tyramine. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):51, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, a study of the tyramine potentiating effect of FG-5310, gamma-morpholino-p-aminobutyrophenone, compared to some nonselective MAO inhibitors was reported. Rats were treated one or several times orally with the MAO inhibitors in doses which protect against reserpine. Tyramine was administered intraduodenally to pithed or anesthetized rats or orally to unanesthetized rats. The blood pressure response was measured intraarterially and compared with control rats tested in the same manner

as the treated rats. Similar experiments were done using anesthetized cats. It was concluded that FG-5310 has a much weaker tyramine potentiating effect than several nonselective MAO inhibitors. (Author abstract)

123289 Edelfors, S.; Gothgen, I. University of Copenhagen, Dept. of Pharmacology, 20 Juliane Maries Vej DK 2100, Copenhagen 0, Denmark Distribution of electrolytes within the brain of lithium treated rats. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):11, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, the distribution of lithium within the brain and the influence of the treatment upon the water to dry matter ratio and the potassium and sodium contents of rats were reported. Rats were treated with lithium orally for two or five weeks (serum lithium 0.5mMol/l on the time for examination). The water intake per day increased throughout the initial four weeks (from 20ml to about 100ml). The concentration of lithium was found to be two to four times greater in the hypothalamic region than in other parts of the brain, and at the same time four to six times greater in the white than in the grey matter. The water to dry matter ratio decreased in all parts of the brain, except the hypothalamus, by approximately 50%. The total contents of potassium and sodium were unaltered. (Author abstract)

123290 Ullberg, S. Department of Toxicology, University of Uppsala, Biomed.Center, Uppsala, Sweden Uptake and distribution of drugs in the fetus. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):81, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, a number of whole body autoradiograms which illustrated the varying distribution pattern of drugs such as vitamins, antibiotics and psychopharmacologic agents in pregnant animals and their fetuses were reported. Some vitamins and other physiological substances are accumulated in the fetal tissues in relation to the maternal tissues. Vit.B12 is exceptional in being concentrated more than 100 times apparently by an active placental transportation mechanism. Fat soluble compounds pass both to the brain and the fetus and drugs which influence the brain (including thalidomide) rapidly reach maternal levels in the fetuses, while quaternary drugs are blocked by both placental and blood

brain barriers. The fetus seems to lack many of the transportation and accumulation mechanisms, which are developed in adult animals. There is also, with exception for a few drugs, a lack of accumulation in fetal excretory pathways. A frequent finding is a very strong and selective accumulation in one single type of fetal tissue. Thus tetracycline accumulates selectively in the fetal skeleton, thiouracil in the fetal thyroid and chloroquine and chlorpromazine in the pigment of the fetal eye. Some substances seem to cause fetal damage without reaching the fetus like trypan blue which is localized in the yolk sac placenta, where it may interfere with a fetal nutritional mechanism. An accumulation in the yolk sac placenta is also seen for cortisone and the herbicide, 2, 4, 5-T. (Author abstract)

123291 Coper, H.; Fernandes, M.; Honecker, H.; Kluwe, S. Institut für Neuropsychopharmakologie der Freien Universität, 1 Berlin 19, Ulmenallee 30 Germany The influence of solvent agents on the effects of cannabis. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):89, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, the influence of solvent agents on the effects of cannabis was reported. One dose of cannabis resin (containing 10mg/kg THC, 9mg/kg cannabiol, 20mg/kg cannabidiol) alters hexobarbital sleeping time, body temperature and catalepsy of male rats. The influence of different solvent and suspension agents of cannabis on these parameters were recorded. The intensity and duration of action of cannabis suspended either in polyethyleneglycol or propyleneglycol was not significantly different. A single injection of THC did not enhance hexobarbital sleeping time after 24 hours. The body temperature was decreased from 38 degrees C to 35 degrees C after one hour and returned to normal within 24 hours. Catalepsy could also be observed for up to six hours. However, cannabis resin when given in rape oil did not produce hypothermia or catalepsy. Hexobarbital sleeping time on the other hand was found to be increased even after four days of a single injection of THC. Experimental data suggest that the pharmacokinetic of cannabis suspended in various agents might be responsible for the observed variability in all parameters studied. (Author abstract)

123293 Albanus, L.; Jonsson, M.; Sparf, B.; Vessman, J. Research Department of the KABI Group,

Stockholm, Sweden A study of the induction effect of phenobarbital, diazepam, oxazepam in the dog. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):55, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, the induction effect of phenobarbital, diazepam and oxazepam in the dog was reported. Male beagles were given phenobarbital (25mg/kg), diazepam (35mg/kg) and oxazepam (150mg/kg) for 13 days. The drugs were administered by a stomach tube as a water suspension. The induction effect was studied by comparing antipyrine half-life before and two days after the dosing period. Further, the plasma concentrations of the drugs were determined on the second, seventh and twelfth day after administration. Gas chromatographic methods were used for the assays. Behavior studies by use of TV and videotape were performed on the first, eight and thirteenth day of the drug treatment period. Antipyrine half-life was found to decrease 84% and 37% following phenobarbital and diazepam, respectively, while after treatment with oxazepam there was an increase of 22%. Preliminary data revealed that the mean plasma concentrations of the drugs at 24 h after dosing increased following all the drugs between day two and seven. However, the plasma concentrations decreased after 12 days administration of phenobarbital and diazepam, but were further increased following oxazepam. Sedation and ataxia were seen after treatment with all the drugs. The degree of these behavioral symptoms changed between the three observation days and these variations seemed to be related to the induction indicated above following phenobarbital and diazepam. (Author abstract)

124105 Herman, Zbigniew S.; Kmieciak-Kolada, Krystyna; Drybanski, Andrzej; Sohola, Andrzej; Trzeciak, Henryk; Chrusciel, Tadeusz L. Department of Pharmacology, Silesian School of Medicine, Zabrze 8, Marksa 38, Poland The influence of 1-(0-allylphenoxy)-3-isopropyl-amino-2-propanol hydrochloride (Alprenolol) on the central nervous system of the rat. *Psychopharmacologia (Berlin)*. 21(1):66-73, 1971.

The influence of alprenolol (1-(0-allylphenoxy)-3-isopropylamino-2-propanol hydrochloride) and amphetamine alone or combined on the content of noradrenaline, dopamine and 5-hydroxytryptamine in seven discrete areas of the brain and on rat behavior was studied. Animals were treated with drugs for six months. Alprenolol caused mainly a

decrease of the estimated endogenous amines in different brain areas. amphetamine caused a decrease of all three amines in some parts of the brain, and reversed some of the changes caused by alprenolol. Alprenolol had no effect on the locomotor activity of rats, but increased the activity of rats treated with amphetamine after the first week of treatment, and antagonized the excitatory effect caused by amphetamine during the following weeks of the experiment. 23 references. (Author abstract)

**124106** Mortillaro, M. Universitäts-Nervenklinik, BRD-6650 Homburg (Saar), Germany /The influence of Harmine on the bioelectrical activity in the rat hippocampus./ *Der Einfluss von Harmin auf die bioelektrische Aktivität des Hippocampus der Ratte. Psychopharmacologia (Berlin)*. 21(1):49-59, 1971.

Rats were used to study the effects of Harmine, a MAO inhibitor, on the bioelectrical activity of the hippocampus (HC) of rats fixed rate stimulation. A dose of 30-50mg/kg induced a strong arousal reaction with theta rhythm in the HC. A constant increase of fast activity in the HC was observed. FR stimulation either induced no change in the activity provoked by Harmin, or an initial clear cut increase of the fast activity followed by a slow theta rhythm. These changes depended on the stimulus voltage. The findings are discussed and compared with physiological and pharmacological studies: the effects of Harmine may be related to an action of the alkaloid on the mechanism responsible for the fast activity. 22 references. (Author abstract)

**125071** Mortillaro, M. Universitäts-Nervenklinik, BRD-665 Homburg (Saar), Germany /The influence of harmine on bioelectric activity in 'cerveau isole'-rats./ *Der Einfluss von Harmin auf die bioelektrische Aktivität der 'cerveau isole'-Präparation der Ratte. Archiv für Psychiatrie und Nervenkrankheiten (Berlin)*. 214(3):278-290, 1971.

The effects of harmine, a MAO inhibitor, were analyzed on the cortical electrical activity of 'low cerveau isole' preparation of rats. Harmine was applied intraperitoneally in 1% solution. The bioelectrical activity was recorded from cortex and hippocampus (HC). Doses less than 40mg/kg did not alter the spindle waves but produced a substantial increase of the fast activity of about 20-40 CPS of the cortex and in the HC. Higher doses (40-80mg/kg) induced profound changes of

spindling: prolonged bursts of 'spike-like' waves appeared instead of normal spindles. Similarity of these bursts in morphology and topography with normal spindles suggest that they are modified and prolonged spindles. The interspindle activity persisted unchanged and showed an increase of fast activity. The findings are compared with neurochemical studies. Harmine may have no action on the lower reticular formation for the following reasons: it induces fast activity in cortex and in HC in intact animals and in 'cerveau isole' preparations and spindles are neither abolished nor depressed. It is assumed that harmine induces on thalamic structures a facilitation with enhancement of spindling and that an increase of serotonin might play a role in this thalamic facilitation. 40 references. (Author abstract)

**125163** Herman, Zbigniew S.; Trzeciak, Henryk; Chrusciel, Tadeusz L.; Kmiecik-Kolada, Krystyna; Drybanski, Andrzej; Sokola, Andrzej. Department of Pharmacology, Silesian School of Medicine, Zabrze 8, Marks 38, Poland The influence of prolonged amphetamine treatment and amphetamine withdrawal on brain biogenic amine content and behaviour in the rat. *Psychopharmacologia (Berlin)*. 21(1):74-81, 1971.

The influence of prolonged amphetamine treatment and withdrawal on brain biogenic amine content and behavior was studied in the rat. Male Wistar rats were treated orally with DL-amphetamine sulphate in a dose of 3mg/kg daily during nine months. An increase of locomotor activity during the first three months was observed, while in the following six months locomotor activity was similar to the control group. The estimations of noradrenaline and 5-hydroxytryptamine levels in nine discrete areas of brain, after nine months of amphetamine treatment showed no change in 5-HT level, but a significant decrease of the noradrenaline level in the pons. Withdrawal of amphetamine from rats treated for nine months with this drug caused an inhibition of locomotor activity and a decrease of noradrenaline and 5-hydroxytryptamine level in the cerebellum. 34 references. (Author abstract)

**125166** Lewander, Tommy. Psychiatric Research Center, University of Uppsala, Ulleraker Hospital, S-75017 Uppsala, Sweden A mechanism for the development of tolerance to amphetamine in rats. *Psychopharmacologia (Berlin)*. 21(1):17-31, 1971.

The development of tolerance to the anorexic and hyperthermic effects of amphetamine were ascertained. During chronic administration of 16-22mg/kg of DL-amphetamine sulphate in rats tolerance to the drug has been found to develop with regard to hyperthermia, anorexia, increased urinary excretion of noradrenaline and adrenaline, but not to stereotype behavior and increased motor activity. The hypothesis, that the accumulation of p-hydroxynorephedrine, a metabolite of amphetamine in this species, might be involved in the tolerance to amphetamine as a false transmitter in central and peripheral noradrenaline neurons was tested. Rats were pretreated with p-hydroxyamphetamine, 40mg/kg 20 h before the injection of amphetamine, 20mg/kg. After pretreatment with p-hydroxyamphetamine, which is converted to p-hydroxynorephedrine in central and peripheral NA neurons, the effects of amphetamine on body temperature, and urinary excretion of noradrenaline were decreased, while the increased motor activity, the stereotype behavior, the anorexia and urinary adrenaline excretion were unaffected. It is concluded that p-hydroxynorephedrine might be involved in the tolerance to the peripheral but probably not to the central effects of amphetamine. 39 references. (Author abstract)

**125248 Wahlstrom, Goran.** Biomedicum, Box 573, S-75123, Uppsala 1, Sweden Changes in a hexobarbital anaesthesia threshold in rats induced by repeated long-term treatment with barbital or ethanol. *Psychopharmacologia (Berlin)*. 19(4):366-380, 1971.

The quantity of intravenously infused hexobarbital needed to produce a burst suppression of 1 sec or more in the EEG was determined in male rats after chronic barbital or ethanol treatments. The ensuing sleeping times were also recorded. At the end of the first treatment with barbital the hexobarbital thresholds had increased by approximately 45% compared with a preexperimental average. The thresholds were back to normal after approximately a week. At the end of a second treatment with barbital there was a similar, slightly more prolonged, immediate increase in threshold. Three weeks after the second treatment there was also a new increase in threshold. The ensuing sleeping times were unaffected. Ethanol treatment caused a gradual increase in threshold which reached a maximum (20%) around day 9-10 after the end of the treatment. Two weeks after

the ethanol treatment the thresholds were essentially normal. In an earlier barbital treated group a second slightly larger increase was also seen around three weeks after the end of the ethanol treatment. In this group an increase was also seen in the ensuing sleeping times but this increase seemed to be unrelated to the increases in threshold. These late changes in threshold after a second treatment seem to be due to a summation of changes induced by the two treatments. In this respect ethanol and barbital are probably related. They are, however, not identical with respect to their effects on the hexobarbital threshold after interruption of chronic treatment. This is shown by the longer latency of the immediate changes after ethanol treatments. 21 references. (Author abstract)

**125255 Tilson, H.A.; Sparber, S.B.** Department of Pharmacology, University of Minnesota, 105 Mel-lard Hall, Minneapolis, MN 55455 Differences in tolerance to mescaline produced by peripheral and direct central administration. *Psychopharmacologia (Berlin)*. 19(4):313-323, 1971.

A fixed-ratio schedule of food reinforcement (FR 30) was used to study the differences in tolerance produced by peripheral injections and intraventricular infusions of mescaline hydrochloride in rats. Successive daily administrations of 10mg mescaline/kg resulted in a decrease in behavioral disruption (tolerance). The following day, intraventricular infusion of a dose of mescaline previously shown to be approximately equal to the peripheral dose in terms of behavioral disruption was started. After tolerance to central administration of mescaline was established, 10mg/kg of mescaline injected resulted in behavioral disruption equal to that produced by the first injection. In a second experiment, blood pressure effects of mescaline given and intraventricularly were studied. Peripherally administered mescaline produced marked effects on caudally measured blood pressure and increased biting upon and struggling within the restraining device. Mescaline administered centrally did not appear to elicit similar cardiovascular changes. These data suggest that different mechanisms may be involved in the formation of tolerance to mescaline administered by these two routes as measured by means of a fixed-ratio reinforcement schedule. 17 references. (Author abstract)

125324 Iwata, Nobuyoshi; Sakai, Yutaka. Medical Laboratory for Pharmacology, Central Research Laboratories, Sankyo Co., Ltd., Shinagawa-ku, Tokyo, Japan Effects of some narcotic analgesics and related compounds upon the extensor monosynaptic reflex inhibition from cutaneous nerve and high threshold muscle afferents. *Japanese Journal of Pharmacology (Kyoto)*. 21(4):447-454, 1971.

In view of the selective blockage by small doses of morphine and fentanyl of the late phase of the monosynaptic reflex (MSR) inhibition from cutaneous Agamma and high threshold muscle afferents, an attempt was made to see whether this effect is related to the analgesic action of these drugs, by comparing the effectiveness of this system of some narcotic analgesics, nonnarcotic analgesics, narcotic antagonists, and compounds chemically related to morphine but devoid of analgesic action and correlating this to the analgesic activity of each drug. All narcotic analgesics tested showed the same suppressive effect as fentanyl and morphine on this inhibitory system. Doses necessary for this effect were close to those for analgesic action of each drug reported in the literature. Drugs other than narcotic analgesics were devoid of this blocking action on the MSR inhibition. Narcotic analgesics probably have common sites of action in the spinal cord; this was discussed in relation to their analgesic action. 11 references. (Author abstract modified)

125326 Tsuchie, Fumiyo; Kolda, Masao; Kaneto, Hiroshi. Department of Pharmacology, Faculty of Pharmaceutical Sciences, Nagasaki University, Nagasaki, Japan Participation of liver function in the acute tolerance to pentobarbital induced after short-term infusion. *Japanese Journal of Pharmacology (Kyoto)*. 21(4):557-558, 1971.

Acute tolerance developed by the short-term infusion of pentobarbital was studied in rabbits. The continuous infusion of pentobarbital at an adequate rate could confer acute tolerance to the hypnotic effect of pentobarbital on experimental animals within a few hours. It is suggested this is accomplished by inducing de-novo synthesis of pentobarbital metabolizing enzyme in the liver as has been demonstrated in chronically treated animals. Results reaffirm the eligibility of this infusion technique as a rapid and convenient method to study the mechanism of tolerance phenomena to various types of drugs. 5 references. (Author abstract modified)

125327 Iwata, Nobuyoshi; Sakai, Yutaka. Medical Laboratory for Pharmacology, Central Research Laboratories, Sankyo Co., Ltd., Shinagawa-ku, Tokyo, Japan Effects of some narcotic analgesics upon the monosynaptic reflex inhibition from muscular and cutaneous afferents in spinal cord of the cat. *Japanese Journal of Pharmacology (Kyoto)*. 21(4):427-437, 1971.

The effects of fentanyl and morphine upon monosynaptic reflex (MSR) depression induced by the low and high threshold cutaneous and muscular afferents in spinal cord were investigated in unanesthetized low spinal cats. Morphine (0.5-10mg/kg) and fentanyl (0.8-80 micrograms/kg) reduced the inhibition of the spinal monosynaptic reflex from the medial gastrocnemius - soleus nerve by a conditioning shock to Agamma fibers of the cutaneous nerve and high threshold muscle afferents. No significant influences were observed upon the MSR inhibitions from low threshold cutaneous and muscle nerves, recurrent collaterals, and on the dorsal root potentials. Other narcotic analgesics tested, oxymorphone (0.25mg/kg) and dimethylthiambutene (5mg/kg) also depressed the MSR inhibition due to Agamma fibers of the cutaneous nerve. 29 references. (Author abstract modified)

125329 Maines, M.D.; Westfall, B.A. Department of Pharmacology, University of Missouri School of Medicine, Columbia, MO 65201 Sex difference in the metabolism of hexobarbital in the Mongolian gerbil (*Meriones unguiculatus*). *Proceedings of the Society for Experimental Biology and Medicine*. 138(3):820-822, 1971.

Sex difference in the metabolism of hexobarbital in the Mongolian gerbil (*Meriones unguiculatus*) was investigated. The hexobarbital - hydroxylating activity of the liver microsomal enzymes and the microsomal content of cytochrome P-450 were higher in the female gerbils. This was further supported by the finding that the duration of hexobarbital hypnosis was shorter in the female than in the male gerbils. 6 references. (Author abstract modified)

125330 Ratner, A.; McCann, S.M. University of Texas Southwestern Medical School, Dallas, TX 75235 Effect of reserpine on plasma LH levels in ovariectomized and cycling proestrus rats. *Proceedings of the Society for Experimental Biology and Medicine*. 138(3):763-767, 1971.

Experiments were carried out to determine the effects of drugs which are known to alter the

stores of monoamines in the hypothalamus upon the concentration of LH (luteinizing hormone) in the blood of ovariectomized and normal rats. LH was estimated by the ovarian ascorbic acid depletion bioassay. In agreement with earlier data, blockade of ovulation occurred when reserpine (2mg/kg) was administered prior to the assumed critical period of LH release and the effect could be overcome by prior treatment with a monoamine oxidase inhibitor, pargyline (25mg/kg). Reserpine injection for 3 days (0.5mg/kg) was effective in lowering the elevated plasma LH levels in ovariectomized rats. A significant level of LH was present in the blood during the afternoon of proestrus in control rats whereas the levels were depressed after a single injection of reserpine (2mg/kg) on the morning of proestrus. The blockade of the proestrous rise in plasma LH by injection of reserpine was prevented by prior treatment with pargyline (25mg/kg). These results provide direct support for the hypothesis that LH secretion is regulated by hypothalamic monoaminergic mechanisms. 29 references. (Author abstract modified)

**125358** Satoh, Masamichi; Takagi, Hiroshi. Department of Pharmacology, Faculty of Pharmaceutical Sciences, Kyoto University, Sakyo-ku, Kyoto, Japan Further observation on the enhancement by morphine of the central descending inhibitory influence on spinal sensory transmission. *Japanese Journal of Pharmacology (Kyoto)*. 21(5):671-672, 1971.

A study investigated whether or not small doses of morphine inhibit the splanchnic afferent impulses in the dorsal funiculus of the cat and if so, whether or not this effect of morphine is also mediated through its facilitatory effect on the central descending inhibitory system. Results indicate that the lower brain stem between posterior 11 to 16 mm of the brain coordinates are necessary for the inhibitory action of small doses of morphine

on the splanchnic afferent pathway in the dorsal funiculus. It is suggested that analgesic doses of morphine inhibit splanchnic afferent impulses in the dorsal funiculus as well as the ventrolateral funiculus of the feline spinal cord resulting from its enhancing action on the descending inhibitory mechanism of the lower brain stem acting upon spinal sensory transmission. 1 reference. (Author abstract modified)

**125409** Boakes, R.J.; Bradley, P.B.; Candy, J.M. Medical Research Council Neuropharmacology Unit, Medical School, Birmingham, B15 2TJ, England Supersensitivity of central noradrenaline receptors after reserpine. *British Journal of Pharmacology (London)*. 43(2):443P-444P, 1971.

The effects of (-)-noradrenaline (NA), applied by microiontophoresis, on the activity of spontaneously firing cells in the brain stem of rats anesthetized with halothane has been studied in untreated animals and in animals pretreated with reserpine, alpha-methyl-p-tyrosine (AMPT) or bis(1-methyl-4-homopiperazinylthiocarbonyl)-disulphide (FLA 63). The firing of the neurons in the untreated animals and in the animals pretreated with AMPT and FLA 63 were similar; the firing rates of the neurons in the animals pretreated with reserpine were significantly differently distributed, with lower median and mode frequencies. The increased sensitivity to NA in the reserpinized animals is similar to the supersensitivity of peripheral structures to NA after reserpine pretreatment. The absence of any change in the responses of the neurons in animals pretreated with AMPT or FLA 63 suggests that the increased responses to NA observed after reserpine pretreatment is due to a blockade of NA uptake and storage rather than a change in the sensitivity of the postsynaptic receptor. 4 references.

**125411** Guha, S.R.; Mitra, Chhanda. Indian Institute of Experimental Medicine, Calcutta, India Amphetamine-tetrazolium reductase activity in

brain. *Biochemical Pharmacology (Oxford)*. 20(12):3539-3542, 1971.

The reduction of neo-tetrazolium chloride (NTC) by rat and guinea pig brain homogenates in the presence of d- and l-amphetamine, ephedrine and mescaline is reported. The pH activity curves for NTC reduction by rat and guinea pig brain homogenates in the presence of d-amphetamine and l-amphetamine are included. Semicarbazide, isoniazid, tranlylcypromine and pargyline failed to inhibit formazan production; iproniazid and catron were effective only at high concentrations; potassium cyanide produced strong inhibition of NTC reduction. It is suggested that the amphetamine-NTC reductase system is possibly different from diamine oxidase, monoamine oxidase or monoamine dehydrogenase systems. 19 references.

125594 Bloom, F.E.; Siggins, G.R.; Hoffer, B.J.; Oliver, A.P.; Woodward, D.J. Laboratory of Neuropharmacology, NIMH, St.Elizabeths Hospital, Washington, DC 20032 Mechanisms of inhibition of cerebellar Purkinje cells in rat and frog. *Experientia (Basel)*. 27(9):1109, 1971.

At the Satellite Symposium of the twenty fifth International Congress of Physiological Sciences, mechanisms of inhibition of cerebellar Purkinje cells examined in the rat and the frog were reported. Purkinje cells respond to iontophoresis of norepinephrine (NE) by reduction of spontaneous discharge rate. Cyclic AMP (C-AMP) also depresses rate and a large body of other pharmacological evidence supports C-AMP as the postsynaptic mediator of NE effects. When rat Purkinje cells are recorded intracellularly during extracellular drug applications, NE and cyclic adenosine nucleotides hyperpolarize, without decreasing membrane resistance, distinguishing it from classical inhibition. Cerebellar NE axons and LC inhibitory effects are eliminated by chronic pretreatment with 6-hydroxydopamine, or by acute treatment with reserpine and alpha methyl tyrosine. Purkinje cells also respond to gamma amino butyric acid (GABA) by reducing discharge rate. In frogs, inhibition of Purkinje cells by molecular layer interneurons is blocked by the iontophoretic administration of the GABA antagonists picrotoxin or bicuculline, but not the glycine antagonist, strychnine. These studies provide evidence for two types of inhibitory pathways to Purkinje cells: a unique inhibitory pathway from locus coeruleus mediated by NE,

and a more conventional cortical interneuronal inhibitory pathway mediated by GABA. (Author abstract modified)

125596 Haefely, W. Dept. of Experimental Medicine, F.Hoffmann-La Roche and Co. AG, CH-4002 Basel, Switzerland Effects of serotonin (5-HT) and some related indole compounds in a mammalian sympathetic ganglion. *Experientia (Basel)*. 27(9):1112, 1971.

At the Satellite Symposium of the twenty fifth International Congress of Physiological Sciences, the effects of serotonin (5-HT) and some related indole compounds on the cat superior cervical ganglion in situ were reported. Ganglionic surface potentials and the electrical activity in the post-ganglionic external carotid nerve were recorded in response to injections of 5-HT and related compounds into the carotid artery. The most prominent effect of 5-HT was a rather longlasting, dose dependent depression of ganglionic transmission. This depression was accompanied by and related in its time course to a ganglionic hyperpolarization, to a reduction of the postpositivity and an increase of the postnegativity of the ganglionic action potential. Depolarization and facilitation were followed by depression and two phases of hyperpolarization. An immediate short-lasting hyperpolarization resembled that observed after depolarization by nicotinic agents, and the longlasting hyperpolarization was obviously the effect already observed with doses subthreshold for stimulation. Bufotenin had qualitatively identical actions, whereas lysergic acid diethylamide and psilocybin showed only the inhibitory effect of 5-HT. Alpha-methyl-5-HT had no inhibitory actions and its stimulating effect was blocked by hexamethonium. (Journal abstract modified)

125598 Florey, Ernst. Fachbereich Biologie, Universitat Konstanz, Jacob-Burckhardt-Strausse, D-775 Konstanz, Germany Excitatory actions of GABA and of inhibitory neurons. *Experientia (Basel)*. 27(9):1112, 1971.

At the Satellite Symposium of the twenty fifth International Congress of Physiological Sciences, the excitatory actions of gamma-aminobutyric acid (GABA) and of inhibitory neurons on the stretch receptors of the crayfish were reviewed. GABA causes a conspicuous increase of Cl-conductance at subsynaptic and chemically excitable membrane areas of many types of nerve and muscle cells. Provided the resting membrane

shows a low permeability to  $\text{Cl}^-$ , it is possible to temporarily reduce the external  $\text{Cl}^-$  concentration without causing a significant depolarization. By electrotonic spread to neighboring membrane regions which are not themselves affected by the transmitter (GABA) these regions can become excited and the effect can sum with that of eppsp's. In stretch receptor neurons of crayfish the frequency of spike generation is linearly and inversely proportional to the membrane potential. Electrophoretic injection of  $\text{Cl}^-$  in the neuron, or reduction of the external  $\text{Cl}^-$  concentration cause ipsp's and GABA to have a depolarizing action resulting in an increase in the frequency of firing. In crustacean muscle conducted action potentials are the exception; contraction is elicited by eppsp's and depolarization. In muscle fibers with low  $\text{Cl}^-$  permeability it is possible to produce powerful contraction by applying GABA in a medium of low  $\text{Cl}^-$  concentration. (Author abstract modified)

**125650 Jandhyala, B.S.; Cavero, I.; Adams, H.R.; Smookler, H.H.; Dixit, B.N.; Buckley, J.P.** Department of Pharmacology, School of Pharmacy, University of Pittsburgh, PA Cardiovascular effects of chronic reserpine administration in mongrel dogs. *European Journal of Pharmacology (Amsterdam)*. 16(3):261-270, 1971.

The cardiovascular effects of chronic reserpine administration (daily for 12-13 months) to 24 mongrel dogs are reported. Chronic administration of low doses of reserpine did not induce significant alterations in arterial blood pressures; however, there was a gradual, significant decrease in heart rate. Studies on autonomic function revealed a certain degree of impairment of cardiovascular reflexes and sympathetic tone. Hypotensive response to hexamethonium was inhibited in reserpine treated dogs. At the termination of the study, left ventricular work was significantly lower and cardiac output decreased in the reserpine treated group under pentobarbital anesthesia. Although the right ventricular contractile force and rate of tension development were significantly greater in the reserpine treated group, the stroke volumes were not. Greater pressor responses obtained to intravenous administration of epinephrine and norepinephrine in the reserpine group were due to a greater elevation of total peripheral resistance rather than cardiac output. It is concluded that the efficiency of the right ventricular myocardium was attenuated in the dogs treated with reserpine. 25 references. (Author abstract)

**125653 Samanin, R.; Valzelli, L.** Istituto di Ricerche Farmacologiche 'Mario Negri', Via Eritrea, 62, 20157 Milano, Italy Increase of morphine-induced analgesia by stimulation of the nucleus raphe dorsalis. *European Journal of Pharmacology (Amsterdam)*. 16(3):298-302, 1971.

The increase of morphine induced analgesia by stimulation of the nucleus raphe dorsalis was investigated in rats. Doses of morphine, devoid of effect in the hot-plate or the tail electrical stimulation tests, became analgesic if rats had been previously stimulated in the nucleus raphe dorsalis but not after stimulation in the lateral nucleus raphe dorsalis. The analgesic effect of morphine is markedly enhanced if the rats are previously stimulated for 1 hr in the nucleus raphe dorsalis. This potentiating effect was observed in two different tests for morphine analgesia and it was mostly evident 30 min after the end of the dorsal raphe (DR) stimulation when the level of the forebrain 5-HIAA was maximally increased. Stimulation of the LDR, which does not increase forebrain 5-HIAA, did not potentiate the effect of morphine. Neither electrical stimulation of the dorsal raphe nor lesions of the nucleus raphe medianus per se changed the pain threshold. The nature of the interaction between morphine and 5-HT remains to be established although it is evident from these and previous findings that 5-HT must be present for morphine to produce its analgesic effect. The possibility should not be overlooked however that the lesion of the midbrain raphe or the stimulation of the nucleus raphe dorsalis may affect the concentrations of morphine at the target sites. 30 references. (Author abstract)

**125959 Starke, K.; Montel, H.; Schumann, H.J.** Pharmakologisches Institut, Klinikum Essen der Ruhr-Universität, BRD-4300 Essen, Hufelandstr.55, Germany Influence of cocaine and phenoxybenzamine on noradrenaline uptake and release. *Naunyn-Schmiedeberg's Archiv für Pharmakologie (Berlin)*. 270(2):210-214, 1971.

The influence of cocaine and phenoxybenzamine on noradrenaline uptake and on the output caused by stimulation of the postganglionic sympathetic nerves was studied in isolated perfused rabbit hearts. In the presence of cocaine or phenoxybenzamine, output was increased. Phenoxybenzamine was more potent than cocaine. The effect of cocaine could be easily washed out, whereas that of phenoxybenzamine persisted. In the presence of cocaine or a higher concentration

of phenoxybenzamine, the removal of noradrenaline from the perfusion fluid was inhibited. Concentrations of phenoxybenzamine and cocaine which similarly inhibited uptake increased noradrenaline overflow to a quite different extent, phenoxybenzamine being twice as effective as cocaine. Uptake inhibition was reversed after perfusion with drug free medium. The mechanism of action of the two drugs is discussed. 9 references.

125960 Jalfre, M.; Monachon, M.A.; Haefely, W. Department of Experimental Medicine, F.Hoffman-La Roche & Co.A.G., CH-4002 Basel, Switzerland Effects on the amygdalo-hippocampal evoked potential in the cat of four benzodiazepines and some other psychotropic drugs. *Naunyn-Schmiedeberg's Archiv für Pharmakologie (Berlin)*. 270(2):180-191, 1971.

In unanesthetized curarized cats, the amplitude and the latency of the potential in the hippocampus evoked by stimulation of the baso-lateral nucleus of the amygdala was studied under the influence of cumulative doses of intravenously injected benzodiazepines (nitrazepam, diazepam, chlordiazepoxide, and medazepam), sodium hexobarbitone, meprobamate, chlorpromazine, amitriptyline, and benzocetamine. The four benzodiazepines depressed in a dose dependent manner the amplitude of the evoked potential and increased its latency. The dose response curves were parallel, and the order of potency was in decreasing order: nitrazepam, diazepam, chlordiazepoxide, and medazepam. Hexobarbitone also reduced the amplitude of the potential, but in contrast to the benzodiazepines did not change its latency. Moreover, unlike the benzodiazepines, hexobarbitone altered the spontaneous electrical activity of the hippocampus in doses which depressed the amplitude of the evoked potential. Meprobamate depressed the amplitude only in very high doses without affecting the latency. Chlorpromazine, amitriptyline, and benzocetamine had no effect on this intralimbic evoked response. The order of potency of the benzodiazepines in affecting the amygdalo - hippocampal evoked potential corresponds to that observed in most of the other animal test situations and is in agreement with the dosages used therapeutically. In addition to showing that the benzodiazepines are more potent in depressing the intralimbic response, the results also suggest a qualitative difference between benzodiazepines and barbiturates. 20 references.(Author abstract modified)

126103 Kim, J.S.; Hassler, R.; Bak, I.J. MPI für Hirnforschung, Neurobiologische Abteilung, BRD-6000 Frankfurt/Main-Niederrad, Deutschordenstr. 46, Germany /Comparison of dose-dependent depletion of some monoamines in rat brains by means of reserpine and oxyptertine./ Vergleich der dosisabhängigen Entspeicherung einzelner Monoamine aus dem Rattengehirn durch Reserpin und Oxyptertin. *Nervenarzt (Berlin)*. 42:490-491, 1971.

A comparison of dose dependent depletion of some monoamines in rat brains by means of reserpine and oxyptertine is presented. Injection of 1mg reserpine per kg rat body weight reduced the serotonin content to 54% within four hours. Noradrenaline reached its lowest level (36%) in 16 hours and held there for eight additional hours. Serotonin accumulation resumed after 16 hours, reaching 68% eight hours later. Dopamine depletion began in four hours, showed the lowest reading (57%) at 16 hours and had regained 74% at 24 hours. Oxyptertine produced a different response pattern, in which the stability of dopamine content was particularly remarkable. It is possible that oxyptertine triggers central effects without severe psychomotor akinesia because of dopamine stability. The mechanism of oxyptertine may involve the decrease of noradrenaline in certain parts of the brain, such as the ventromedian hypothalamus. 10 references.

126160 Galea, V.; Popa, Lidia; Popa, L. Institutul Medico-legal, Str.Clinicilor Nr.3-5, Cluj, Romania /Effect of thanatologic changes on the imipramine content of internal organs./ Der Einfluss der thanatologischen Veränderungen auf den Imipraminegehalt der Eingeweide. *Archiv für Toxikologie (Berlin)*. 28(1):56-62, 1971.

The effect of Thanatologic changes on the imipramine content of internal organs was studied in rats. Post-mortem examination of rats killed with imipramine showed decreased readings of drug traces during storage at room temperature for up to 90 days. Results were comparable to initial values when organs were refrigerated at plus 4 degrees C for up to 30 days, reaching maximal loss of 16% after 90 days. Detection of imipramine may thus be possible after exhumation. 24 references. (Author abstract modified)

#### 04 MECHANISM OF ACTION: BEHAVIORAL

073309 Iversen, Susan D.; Wilkinson, Simon; Simpson, Brian. Department of Experimental

Psychology, Cambridge University, Cambridge, England Enhanced amphetamine responses after frontal cortex lesions in the rat. *European Journal of Pharmacology*. 13:387-390, 1971.

The effects of amphetamine on motor activity in the rat after the placement of surgical lesions in the frontal cortex is investigated. The behavioral effects of amphetamine include stimulation of spontaneous motor activity and the elicitation of stereotyped behavior. These drug effects are enhanced after bilateral frontal cortex lesions in the rat. It is suggested that the lesion alters the balanced control of motor output mediated by the basal ganglia and thereby the stimulatory effects of the neurotransmitter, dopamine, released by amphetamine from the corpus striatum. 14 references. (Journal abstract modified)

075046 Routtenberg, Aryeh; Bulloch, George C. Department of Psychology, Northwestern University, Evanston, Illinois 60201 Self-starvation and rewarding brain stimulation: effects of chlorpromazine and pentobarbital. *Learning and Motivation*. 2(1):83-94, 1971.

An investigation of the effects of chlorpromazine and pentobarbital on self-starvation observed in the brain stimulation situation is discussed. Given the choice between rewarding brain stimulation and food, albino rats with electrodes placed in or near the medial aspect of the medial forebrain bundle (M-MFB) ignored food and self-stimulated. Subjects with electrodes placed in the lateral aspect of MFB also self-stimulated, but did not ignore food. In M-MFB animals pretreated with chlorpromazine (2 mg/kg, ip), self-stimulation was reduced and self-starvation was attenuated. When the same subjects were pretreated with pentobarbital (8mg/kg, ip), self-stimulation was not reduced, but self-starvation was attenuated. 20 references. (Author abstract modified)

077424 Chan, Onn-Leng; Webster, R. A. Department of Pharmacology, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia Importance of noradrenaline found in a functional pool in maintaining spontaneous locomotor activity in rats. *British Journal of Pharmacology (London)*. 41(4):700-708, 1971.

Spontaneous locomotor activity (activity) in male Wistar rats was compared with the concentrations of brain noradrenaline (NA), dopamine (DA) and metaraminol. Alpha-Methyl-m-tyrosine

(alphaMMT) (400mg/kg) reduced the concentration of DA as well as NA but activity remained high in the presence of metaraminol pretreatment there was a fall in the levels of activity and in the concentration of NA, DA and metaraminol. Alpha-Methyl-p-tyrosine (alphaMT) produced a fall in activity which was correlated with falls in the concentration of NA and DA. 5-Hydroxytryptamine (5-HT) did not appear to be affected. After depletion of NA and DA by alphaMT and TBZ, administration of L-dopa produced a return in activity which was significantly correlated with the concentration of NA but not DA. When alphaMMT was given to a similar group of pretreated animals there was no recovery of activity despite high concentrations of DA and metaraminol. The dopamine beta hydroxylase inhibitor, diethyldithiocarbamate (DDC), suppressed activity as well as the concentrations of NA and DA at high doses (750mg/kg) but smaller doses (400mg/kg) plus L-dopa gave high DA concentrations without activity. It is concluded that NA and not DA is associated with activity but that it is only part of the total NA which is in the biosynthetic storage granule affected by drugs like alphaMT and TBZ, which controls activity. Drugs that do not affect this pool may lower NA concentrations but not reduce activity. The replacement of NA by metaraminol in this functional pool does not restore activity. 17 references. (author abstract)

077425 Chan, Onn-Leng; Webster, R. A. Department of Pharmacology, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia Effect of tetrabenazine and alpha-methyl-m-tyrosine on exploratory activity and brain catecholamines in rats. *British Journal of Pharmacology (London)*. 41(4):691-699, 1971.

Spontaneous exploratory locomotor activity of Wistar rats was measured in photocell activity cages, and brain noradrenaline (NA) and dopamine (DA) were determined fluorometrically after ion exchange purification. Tetrabenazine (TBZ) (10mg/kg) produced a fall in NA and DA concentrations in rat brain stems which was correlated with the fall in activity in female Wistar rats. Alpha-Methyl-m-tyrosine (alphaMMT) reduced the concentration of rat brain NA without affecting DA concentration or activity. Pretreatment with alphaMMT did not stop TBZ from producing a marked reduction in activity and NA concentration, but partially protected DA

from the depleting action of TBZ. These results support a role for catecholamines in the control of motor activity, but they do not implicate NA more than DA and they emphasize that the mechanisms by which drugs affect the concentrations of catecholamines may be more important than the gross concentrations attained. 16 references. (author abstract)

**077680** Berger, Barry D.; Wise, C. David; Stein, Larry. Wyeth Laboratories, Inc., Philadelphia, Pennsylvania 19101 Norepinephrine: reversal of anorexia in rats with lateral hypothalamic damage. *Science*. 172(3980):281-284, 1971.

Injection of norepinephrine in the lateral ventricles of rats recovering from lateral hypothalamic anorexia caused immediate feeding and, frequently, overeating. Intraventricular administration of the alpha-noradrenergic blocker, phenolamine, suppressed feeding in both normal rats and rats that had recovered from lateral hypothalamic lesions. Feeding is reinforced by ascending medial forebrain bundle fibers that form alpha-noradrenergic synapses in the hypothalamus and forebrain. Damage to these fibers suppresses feeding by reducing noradrenergic transmission and, hence, the rewarding value of food. Recovery of feeding after hypothalamic lesions coincides with the recovery of noradrenergic reward function. 27 references. (author abstract)

**077992** Yen, H. C. Y.; Katz, M. H.; Krop, S. Food and Drug Administration, U. S. Department of Health, Education, and Welfare, Washington, D. C. 20204 Effects of some psychoactive drugs on conditioned avoidance response in aggressive mice. *Archives Internationales de Pharmacodynamie et de Therapie (Gand)*. 190(1):103-109, 1971.

Conditioned avoidance response (CAR) has been studied in aggressive and nonaggressive mice of DBA/2J and ICR strains. Aggressive mice achieved better CAR performances than nonaggressive mice within each strain. However, there is a distinct difference between these two strains; i.e., the CAR of DBA mice (53 to 82%) was much higher than that of ICR mice (5.2 to 21%). Desipramine (3mg/kg) increased the CAR performances; iproniazid (100mg/kg) decreased them. The CAR was retained by DBA mice for 3 to 4 weeks, but after this time some mice had gradually reduced performances. Alpha-methyl tyrosine (MMT) (50mg/kg) reduced the CAR from

82 to 26.7% in aggressive mice but the reduction was less when mice were treated with DL-DOPA (150mg/kg) after MMT. p-Chlorophenylalanine (300mg/kg) produced no effect on CAR, except for a slight reduction in nonaggressive animals at 450mg/kg. Maintenance of brain catecholamine levels is probably essential for retention of CAR. In contrast, CAR may not be directly affected by the reduction of brain serotonin levels. Extinction of CAR occurred rather uniformly in control DBA mice but varied considerably in aggressive DBA mice. 12 references. (author abstract)

**078134** Taylor, Kenneth M.; Snyder, Solomon H. Department of Pharmacology, Johns Hopkins University School of Medicine, Baltimore, Maryland 21205 Differential effects of D- and L-amphetamine on behavior and on catecholamine disposition in dopamine and norepinephrine containing neurons of rat brain. *Brain Research (Amsterdam)*. 28(2):295-309, 1971.

The effects of D-amphetamine and L-amphetamine on the disposition of intraventricularly administered 03H1norepinephrine and 03H1dopamine and on endogenous catecholamine in various regions of the rat brain were compared. In behavioral experiments the effects of D-amphetamine and L-amphetamine on locomotor activity and on compulsive gnawing behavior were also compared. In brain areas where norepinephrine is the predominant catecholamine, D-amphetamine but not its L-isomer inhibited 03H1catecholamine accumulation and lowered endogenous norepinephrine levels. In the corpus striatum, a dopaminergic brain region, both D-amphetamine and L-amphetamine markedly reduced accumulation of 03H1catecholamines. D-Amphetamine was 10 times as potent as L-amphetamine in enhancing locomotor activity, but was only twice as active in evoking compulsive gnawing behavior. Our results suggest that brain norepinephrine is selectively involved in mediating amphetamine induced locomotor stimulation while a dopaminergic component may participate in eliciting the compulsive gnawing syndrome. 39 references. (author abstract)

**078448** Penrod, William C.; Boice, Robert. Department of Psychology, 209 McAlester Hall, University of Missouri, Columbia, Missouri 65201 Effects of halothane anesthesia on the retention of a passive avoidance task in rats. *Psychonomic Science*. 23(3):205-207, 1971.

In an investigation of the effects of halothane anesthesia on the retention of a passive avoidance task, 1 trial passive avoidance training was given to 126 male albino rats in a 3 by 3 by 2 factorial design, with halothane anesthesia (administered 20 sec after training, 30 min after training, or not administered), retest interval (1, 4, or 7 days), and preanesthesia (administered 2 days before training or not administered) as main effects. Results were as follows: 1) 24 h retention in nonpreanesthetized Ss replicated the usual gradient of retrograde amnesia; 2) 4 and 7 day scores did not exhibit the similarity to day 1 scores predicted by consolidation theory; 3) the effects of preanesthesia on retention were marked but did not appear to be due to drug dissociation. 15 references. (Author abstract modified)

**078449 Capaldi, E. J.; Sparling, Daniel L. Purdue University, Lafayette, Indiana 47907 Amobarbital vs saline extinction following different magnitudes of consistent reinforcement. *Psychonomic Science*. 23(3):215-217, 1971.**

Amobarbital versus saline extinction is studied following different magnitudes of consistent reinforcement. Rats were extinguished in a runway following acquisition under large consistent reward (20, 45mg pellets) vs small consistent reward (2 pellets). Large reward reduced resistance to extinction under amobarbital and under saline; in the goal section, the reducing effects of large reward were greater under amobarbital than under saline. The reducing effect of large reward on resistance to extinction thus appears to be independent of the absolute level of frustration occurring in extinction. 15 references. (Author abstract modified)

**078452 Johnson, James T.; Stanton, Jon P.; Sewell, William R. Memphis State University, Memphis, Tennessee 38116 The effects of magnesium pemoline on Sidman avoidance behavior. *Psychonomic Science*. 23(3):224-225, 1971.**

In a study of the effects of magnesium pemoline on Sidman avoidance behavior, 2 naive male rats received sham treatment for a total of 10 sessions, and 2 other Ss received drug and sham treatment on alternate sessions. All Ss were exposed to a 120 min Sidman avoidance session 2 h after injection. The results indicate that magnesium pemoline temporarily increases overall response rate by producing extended runs of high rate responding on drug sessions. No session to

session transfer effects were evident, and considerable overlap of shock rates occurred on experimental and control days. Some comments were made which related the results to the traditional learning performance distinction. 7 references. (Author abstract modified)

**078453 Jordan, C. R.; Satinder, K. Paul. Lakehead University, Thunder Bay, Ontario, Canada Effects of ribonuclease on acquisition and retention of escape-avoidance behavior in a selectively bred rat strain. *Psychonomic Science*. 23(3):245-247, 1971.**

Before and during the acquisition of escape avoidance behavior, ribonuclease was administered to rats of a strain selectively bred for high rates of avoidance conditioning. In 2 replications of the experiment, it was found that the animals injected with 0.01gm/kg ribonuclease in saline for 7 days before the behavioral testing was undertaken did not show any appreciable acquisition of the conditioned response, whereas the animals injected with the same dosage 7 days before testing as well as during 7 days of training acquired the response, starting the fourth day of training; on the seventh day, these animals were not any different from the control groups, which went through the same procedure except that only saline injections were administered. 12 references. (Author abstract)

**078527 Chisholm, Drake C.; Couch, J. V.; Moore, John W. University of Massachusetts, Amherst, Mass. 01002 Chlordiazepoxide and aversive conditioning: effects of acquisition and performance of the conditioned nictitating membrane response in the rabbit. *Psychonomic Science*. 23(3):203-204, 1971.**

A 12mg/kg dosage of chlordiazepoxide is shown to disrupt acquisition and postasymptotic performance of the classically conditioned nictitating membrane response of rabbits induced by pairing a tone with eyeshock. This result makes more plausible the hypothesis that chlordiazepoxide interferes with avoidance learning in rabbits by suppressing the conditioned fear component of avoidance learning. 9 references. (Author abstract)

**078936 Babbini, M.; Montanaro, N.; Strocchi, P.; Gaiardi, M. Institute of Pharmacology, University of Bologna, Bologna, Italy Enhancement of amphetamine-induced stereotyped behavior by**

benzodiazepines. *European Journal of Pharmacology (Amsterdam)*. 13(3):330-340, 1971.

The influence of various doses of benzodiazepine derivatives (chlordiazepoxide, diazepam, nitrazepam, oxazepam, desmethyldiazepam, methyloxazepam) upon stereotyped behavior induced in rats by methamphetamine was investigated using jiggle cage actometers that allow a qualitative recording of rat activity. It was found that all the tested compounds enhanced the stereotyped behavior while inhibiting coordinated locomotor activity stimulated by methamphetamine. Studies carried out with proadifen suggest that the potentiating effect of benzodiazepines is not due solely to changes in the metabolic disposition of methamphetamine. Among the drugs tested methyloxazepam consistently appeared to be the most potent. 29 references. (Author abstract)

078937 Gupta, B. D.; Dandiya, P. C.; Gupta, M. L.; Gabba, A. K. Department of Physiology and Pharmacology, S.M.S. Medical College, Jaipur, India An examination of the effect of central nervous system stimulant and anti-depressant drugs on open field performance in rats. *European Journal of Pharmacology (Amsterdam)*. 13(3):341-346, 1971.

An examination is made of the effect of central nervous system stimulant and antidepressant drugs on open field performance in rats. In the studies, the open field performance of rats treated with 5 different doses of amphetamine, iproniazid or imipramine was compared with those treated with the same doses of lysergide (LSD) or placebo. The analysis of variance performed on the ambulation, rearing and preening scores produced significant differences between the groups. It was found that selective stimulation of ambulation with suppression of other interrupting responses, such as rearing and preening, was a typical stereotyped open field behavior which was a function of increasing doses of, not only LSD, but also of iproniazid. Similarly, selective stimulation of rearing at the cost of preening was a behavioral function of increasing doses of amphetamine and of lower doses of imipramine. 20 references. (Author abstract modified)

078938 Ziff, D. R.; Capaldi, E. J. Department of Psychology, Purdue University, Lafayette, Indiana 47907 Amytal and the small trial partial reinforcement effect: stimulus properties of early trial non-

rewards. *Journal of Experimental Psychology*. 87(2):263-269, 1971.

In an investigation of amytal and the small trial partial reinforcement effect, the stimulus properties of early trial nonrewards were determined to test the hypothesis that nonreward may occasion distinctive stimuli in the absence of being frustrative. Following limited acquisition training in the runway (3 or 6 trials), 5 groups of 12 rats each were given 12 extinction trials. Four of the groups received large reward (.81gm.) and comprised a 2 X 2 factorial combining amytal or saline in acquisition with partial or continuous reinforcement. A fifth group received small partial reinforcement (.09gm.) under saline. All groups were extinguished without amytal or saline. Amytal trained groups ran faster in acquisition but slower in extinction. A partial reinforcement effect was obtained following amytal which was as large as that obtained following saline (absence of a drug X schedule interaction). Large partial reward (saline) produced greater resistance to extinction than small partial reward. It was suggested that the present results are more consistent with a conditioning than with a nonconditioning model of small trial phenomena. 21 references. (Author abstract modified)

079066 Pappas, Bruce A.; Gray, Peter. Rockefeller University, New York, New York 10021 Cue value of dexamethasone for fear-motivated behavior. *Physiology and Behavior (Oxford)*. 6(2):127-130, 1971.

The cue value of dexamethasone for fear motivated behavior is investigated. In experiment 1, rats deprived of water for 24 hr were administered a single grid shock after emitting 200 licks. Latencies to resume licking were significantly increased by prior adrenocorticotrophic hormone (ACTH) injection but were unaffected by injections of dexamethasone, which inhibits endogenous ACTH, by corticosterone. In experiment 2, water deprived rats were injected with either dexamethasone or saline, and given 5 shocks in the licking chamber. Twenty four hr later they were tested for lick latencies under the same or different injection treatment. Animals shocked and tested under dexamethasone showed equivalent latencies to those shocked and tested under saline injection. However, animals trained and tested under opposite injection conditions showed significantly shorter latencies than animals trained and tested under the same drug

condition, indicating that the dexamethasone had functioned as a cue. 13 references. (Author abstract modified)

**079067 Isaac, Walter.** Department of Psychology, University of Georgia, Athens, Georgia A study of the relationship between the visual system and the effects of d-amphetamine. *Physiology and Behavior (Oxford)*. 6(2):157-159, 1971.

A study is performed to evaluate the hypothesized involvement of the visual system in determining the response to amphetamine as reflected by locomotor activity. The observed stimulant effect of d-amphetamines measured by cage activity in the nocturnal animal is at least partially due to the drugs reducing the activity suppressing effect of illumination. The drug had its greatest effect in combination with a lesion of the superior colliculus. 9 references. (Author abstract modified)

**079069 Scheel-Kruger, Jorgen. Sct. Hans Hospital, Department E, 4000 Roskilde, Denmark** Comparative studies of various amphetamine analogues demonstrating different interactions with the metabolism of the catecholamines in the brain. *European Journal of Pharmacology (Utrecht)*. 14(1):47-59, 1971.

Comparative studies are made of various amphetamine analogues to demonstrate different interactions with the metabolism of the catecholamines in the brain. Specifically, behavioral studies on the effects of amphetamine, methamphetamine, phenmetrazine, pipradrol, 7-benzyl-1-ethyl-1, 4-dihydro-4-oxo-1, 8-naphthyridine-3-carboxylic acid (NCA) and methylphenidate administered to rats pretreated with reserpine or alpha-methyltyrosine and additional biochemical analyses demonstrated that all 6 stimulants affected both brain dopamine and brain noradrenaline metabolism. The present study permits a distinct separation of these drugs into 2 groups since the interaction with the catecholamines was found to be mediated by 2 different mechanism of action: behaviorally, excitation, consisting of locomotor and stereotyped activities after amphetamine, methamphetamine and phenmetrazine, was virtually impossible to inhibit with reserpine even in extremely high doses (50mg/kg), but was, in contrast, strongly inhibited by a methyltyrosine. Biochemically, the excitation in reserpinized rats was correlated with the metabolic influence on a reserpine resistant pool

of dopamine. The very similar behavioral effects produced by pipradrol, NCA, and methylphenidate were in sharp contrast found to be correlated with the influence on a reserpine sensitive pool of the catecholamines and not with the newly synthesized catecholamines. Reserpine completely inhibited all behavioral and biochemical effects of pipradrol, NCA and methylphenidate. 50 references. (Author abstract modified)

**079096 Witt, Peter N.** North Carolina Department of Mental Health, Raleigh, North Carolina Drugs alter web-building of spiders: a review and evaluation. *Behavioral Science*. 16(1):98-113, 1971.

A review of behavioral studies of spider web construction and the effects of drugs on such construction is presented. Most data were collected by measuring and analyzing photographs of webs built under different circumstances; groups of web data were subjected to statistical comparisons. Another approach was through analysis of motion pictures of the construction of orbs, built with or without interference. Drugs (chlorpromazine, diazepam, psilocybin), as well as temperature and light conditions could prevent onset of web building and pentobarbital sodium could cause end of radius construction before completion. D-amphetamine caused irregular radius and spiral spacing, but showed regular execution of probing movement; the severity of the disturbance in geometry corresponded to drug concentration in the body. Scopolamine caused wide deviation of spiral spacing distinctly different from amphetamine, while LSD-25 application resulted in unusually regular webs. Size of catching area, length of thread, density of structure, thread thickness, and web weight were varied in different ways through treatment with cholinergic and anticholinergic drugs, tranquilizers, etc. Glandular or central nervous system points of attack for drugs are identified, and disturbed webs regarded as the result of interference at any of several levels which contribute to the integrated pattern. Web building as a biological test method for identification of pathogenic substances in patients' body fluids is evaluated. 33 references. (Author abstract modified)

**079423 Lacey, Daniel J.** Department of Anatomy-Physiology, Indiana University, Bloomington, Indiana 47401 Temporal effects of RNase and DNase in

disrupting acquired escape behavior in regenerated planaria. *Psychonomic Science*. 22(3):139-140, 1971.

An experiment was conducted to determine the temporal effects of ribonuclease (RNase) and deoxyribonuclease (DNase) in disrupting acquired escape behavior in regenerated planaria. The results suggest a time dependent involvement of ribonucleic acid and deoxyribonucleic acid in maintenance of the acquired response pattern. Trained planaria, transected immediately after the last training trial and regenerated in RNase, exhibited impairment of an acquired escape pattern of responses. Regeneration in DNase resulted in no response decrement. Ss transected 24 h after completion of the last training sessions and regenerated in either RNase or DNase, displayed significant response decrement. 4 references. (Author abstract modified)

079428 Crow, Lowell T. Western Washington State College, Bellingham, Washington 98225 Alcohol ingestion in rats following median eminence lesions. *Psychonomic Science*. 22(1):36-37, 1971.

A study, designed to establish voluntary alcohol consumption in rats, and to note the effects upon acceptance of ethanol of brain lesions of the median eminence blocking antidiuretic hormone release (producing the polydipsia characteristic of diabetes insipidus), is reported. Albino rats were maintained on an alternate day presentation schedule in which 1 of 3 alcohol concentrations (6%, 12%, or 24% volume/volume) was substituted for water. Under these conditions, a stable volume of ethanol was ingested which was inversely proportional to the concentration. The production of polydipsia through median eminence lesions resulted in an increase in the consumption of the lower concentration of alcohol, but no change in the amount consumed of the 2 higher concentrations. The results are discussed as they relate to central factors of ethanol ingestion. 6 references. (Author abstract modified)

079533 Brown, Kenneth; Warburton, David M. Queen's University, Belfast, Northern Ireland Attenuation of stimulus sensitivity by scopolamine. *Psychonomic Science*. 22(5):297-298, 1971.

In a study of attenuation of stimulus sensitivity by scopolamine, 5 male albino rats were trained on a DRL 15 sec schedule of reinforcement and injected with 6 doses of scopolamine hydrobromide. Analysis of the results by means of signal

detection theory indicated that the effects were due to modifications of stimulus sensitivity rather than changes in response bias. This was interpreted as evidence against a response inhibition hypothesis and suggests that there were changes in the stimulus input. 13 references. (Journal abstract modified)

079611 Boitano, John J.; Patrissi, Geoffrey A.; Simone, Susan A. Fairfield University, Fairfield, Connecticut Effects of magnesium pemoline in dimethylsulfoxide on reversal learning, motor activity, and water intake. *Psychological Reports*. 28(1):71-79, 1971.

A total of 52 rats were given reversal training in a T-maze under magnesium pemoline either dissolved in dimethylsulfoxide (DMSO) or suspended in gum tragacanth. The course of reversal learning was unaltered as a consequence of drug administration except for the deleterious performance of the magnesium pemoline in DMSO animals on the tenth reversal. Regardless of vehicle, magnesium pemoline enhanced motor activity in an L-maze. While both magnesium pemoline groups exhibited reduced water consumption relative to controls, both DMSO groups exhibited an increase, concurrent with reduced body weight. It is suggested that DMSO is not an inert placebo and should be used with caution in repeated administration behavioral studies. 14 references. (Journal abstract)

080109 Gray, Jeffrey A. Institute of Experimental Psychology, 1 South Parks Road, Oxford, England Effect of ACTH on extinction of rewarded behaviour is blocked by previous administration of ACTH. *Nature (London)*. 229(5279):52-54, 1971.

The effect of corticotropin (ACTH) on extinction of rewarded behavior is found to be blocked by previous administration of ACTH in an investigation using 32 male Wistar rats as subjects. The animals (2 groups of 8) received an injection of ACTH on day 1 of acquisition; the other 2 groups received the gel placebo. One of each of these pairs of groups received ACTH injections during extinction, and the other received placebo injections. Running time on the runway to reach the food in the goalbox was measured to the nearest 0.1s. The data were subjected to analysis of variance, and some interactions were further analyzed by t-tests based on the error variances from the analysis of variance. The results of this experiment show that ACTH injected during ex-

tion retard extinction, but that this effect is prevented by a single previous injection of ACTH on the first day of acquisition (6 days before the extinction drug treatment began). These results confirm previously reported results in demonstrating that ACTH can block the behavioral effects of frustrative nonreward. 13 references.

**082719 Goldberg, Steven R.; Woods, James H.; Schuster, C. R.** Department of Pharmacology, Harvard Medical School, 25 Shattuck Street, Boston, Massachusetts 02115 Nalorphine-induced changes in morphine self-administration in rhesus monkeys. *Journal of Pharmacology and Experimental Therapeutics*. 176(2):464-471, 1971.

Small doses of nalorphine (30 to 300 micrograms/kg) and naloxone (3 to 10 micrograms/kg) markedly increased the rate of i.v. morphine self-administration in morphine dependent rhesus monkeys; larger doses tended to decrease morphine self-administration. Naloxone was about 10 times more potent than nalorphine in producing these changes. There was evidence of sequential effects, with one dose of nalorphine affecting the response to subsequent doses. After repeated injections of small nalorphine doses, interspersed saline injections increased self-administration rate in some monkeys. Nalorphine, in the range of doses that produced changes in morphine self-administration, had no effect on cocaine self-administration. 19 references. (author abstract)

**082722 Pradhan, S. N.; Bowling, Chetwynd.** Howard University College of Medicine, Department of Pharmacology, Washington, D. C. 20001 Effects of nicotine on self-stimulation in rats. *Journal of Pharmacology and Experimental Therapeutics*. 176(1):229-243, 1971.

Rats were trained to press a lever to receive intracranial electric stimulation through a stereotaxically implanted bipolar electrode in 2 different areas of the hypothalamus. Nicotine was given i.p. at several dose levels (12.5-400 micrograms/kg; base). The effects of nicotine were found to be rate dependent. Facilitation of responding for self-stimulation was observed at 37.5 micrograms/kg and higher doses of nicotine in rats with low response rates. In rats with high response rates, nicotine had very little effect or even caused depression. However, when the rates were lowered in such rats by reducing current intensity or after prolonged lever pressing, a facilitatory effect of nicotine was demonstrable.

Nicotine had no appreciable effect on unreinforced responses, and it counteracted the depressant effect of barbiturates on self-stimulation. The facilitatory effect of nicotine on self-stimulation resembled that of amphetamine in many respects. Facilitation of self-stimulation by nicotine was reduced or blocked by mecamylamine, a tertiary ganglion blocking agent, and could not be produced in animals treated with reserpine 24 hours earlier. It is proposed that nicotine, by acting on a central nicotinic cholinergic receptor, may indirectly cause release of norepinephrine which, in turn, produces the facilitatory effect on self-stimulation. 42 references.

**082723 Evans, Hugh L.** Department of Radiation Biology and Biophysics, University of Rochester Medical Center, Rochester, New York 14620 Behavioral effects of methamphetamine and alpha-methyltyrosine in the rat. *Journal of Pharmacology and Experimental Therapeutics*. 176(1):244-254, 1971.

Doses of 0.2 and 1.6 mg/kg of methamphetamine (MA) tended to increase low lever pressing rates and low motor activity levels but were more likely to suppress high rate lever pressing and motor activity. In addition to this rate dependency, situational variables, such as electric shock, drug dose and time after injection, were also found to influence MA effects. Food intake was reduced only by 1.6 mg/kg of MA. alpha-Methyltyrosine (alpha-MT) in doses of 12.5 to 50.0 mg/kg caused changes in behavior and was observed to potentiate, antagonize or reverse MA effects depending on the variables described above. This suggests that the effects of alpha-MT plus MA involve several central nervous system mechanisms. alpha-MT did not interact with p-chloromethamphetamine. 41 references. (author abstract)

**082729 Leonard, Brian E.; Liska, Kenneth J.** Pharmaceutical Division, Imperial Chemical Industries Limited, Mereside, Alderley Park, Macclesfield, Cheshire, England Effects of morpholino-, pyrrolidino-, piperizino-, and cyclo-octyl-derivatives of beta-alanine on brain amines and amino acids. *Life Sciences (Oxford)*. 10(2):93-104, 1971.

A study of the comparative effects of compounds structurally related to LSD is presented. The 8 compounds tested were derivatives of beta-alanine, which were found previously to show LSD like activity in experiments in which the

contraction of the isolated rat stomach strip elicited by 5-HT was antagonized by these compounds and LSD. Syntheses were accomplished by adding a primary or secondary amine to ethyl acrylate and to N,N-diethylacrylamide, and fractional distillation was used for product isolation. Infrared spectra and NMR spectra were used for identification. Rats of either sex were studied for behavioral effects, and the experimental compounds were injected i.p. (1mg/kg). With respect to behavioral effects, 3 of the compounds (2 ethyl ester derivatives and 1 N,N diethylamide) caused head twitching in the highest dose used (10mg/kg) and the remaining 5 compounds (2 ethyl esters and 3 N,N-diethylamides) produced behavioral depression and occasional piloerection. LSD caused head twitching and slight hyperthermia at a dose of 0.2mg/kg. Only 2 of the N,N-diethylamides, 1 ethyl ester and LSD significantly altered brain gamma-aminobutyric acid. The compounds were arranged into 5 groups according to their partial similarity to LSD in their effects. If the hallucinogenic effect of LSD is assumed to be associated with catecholamine turnover and reduced serotonin turnover, it is unlikely that the D-ring of LSD is responsible for this effect. 14 references.

**082757** Dominic, J. A.; Moore, K. E. Department of Pharmacology, Michigan State University, East Lansing, Michigan 48823 Depression of behavior and the brain content of alpha-methylnorepinephrine and alpha-methyldopamine following the administration of alpha-methyldopa. *Neuropharmacology (Oxford)*. 10(1):33-44, 1971.

Attempts were made to relate the alpha-methyldopa induced depression of conditioned avoidance responding in rats and of spontaneous locomotor activity in mice with the brain contents of alpha-methyldopa, norepinephrine, alpha-methylnorepinephrine, dopamine and alpha-methyldopamine. After a single i.p. injection of alpha-methyldopa (200mg/kg) both conditioned avoidance responding and motor activity were depressed when determined 1 to 6 hr later, but returned to control values by 12 hr. Replacement of dopamine by alpha-methyldopamine in the brain had a similar time course, whereas the replacement of norepinephrine by alpha-methylnorepinephrine was slower in onset and longer in duration (up to 24 hr). Pretreatment with U-14,624, an inhibitor of dopamine beta-hydroxylase, prevented alpha-methyldopa induced depression of spontaneous locomotor activity and

the formation of alpha-methylnorepinephrine. The conversion of C14-tyrosine to C14-dopamine was reduced at 1 hr, and to C14-norepinephrine was reduced at 1 and 12 hr after the injection of alpha-methyldopa. It is proposed that the behavioral depressant actions of alpha-methyldopa are associated with the accumulation of alpha-methyldopamine in the brain and the subsequent conversion of this amine to alpha-methylnorepinephrine. 31 references. (author abstract)

**082759** Johnson, F. N. Department of Psychology, University of Birmingham, Birmingham 15, England Stimulus significance and chlorpromazine-induced impairment of avoidance learning in mice. *Neuropharmacology (Oxford)*. 10(1):9-14, 1971.

It is suggested that chlorpromazine may reduce the significance of stimuli to an animal, and that if this were so, it would follow that the effects of chlorpromazine might be offset by arranging for stimulus significance to be increased. The effects of 0.075 mg/kg of chlorpromazine on the acquisition of one-trial passive avoidance learning in mice are described; when the experimental subjects were given prior experience, in a T-maze, of the black - white discriminanda used in establishing one-trial learning, the extent of the drug induced suppression of learning was reduced. The results are discussed as being consistent with a chlorpromazine induced reduction of stimulus significance. 23 references. (author abstract)

**082771** Glick, Stanley D. Department of Pharmacology, Albert Einstein College of Medicine, Bronx, New York 10461 Differential sensitivity of frontal rats to d-amphetamine and scopolamine. *Communications in Behavioral Biology*. 5(6):341-346, 1971.

Rats with frontal ablations and sham-operated rats were trained to asymptotic performance on a task involving daily reversal of a spatial discrimination. The effects of d-amphetamine and scopolamine administration on the task performance of both groups of rats were then analyzed. Both drugs impaired performance of both groups of rats. However, the frontal rats were markedly less sensitive to d-amphetamine, but not to scopolamine, than the sham rats. Factors responsible for changing sensitivity to drugs following brain damage were implicated. 14 references. (author abstract)

**082781** Cheney, D. L.; Goldstein, Avram. Department of Pharmacology, Stanford University, Stanford, California 94305 The effect of p-chlorophenylalanine on opiate-induced running, analgesia, tolerance and physical dependence in mice. *Journal of Pharmacology and Experimental Therapeutics*. 177(1):309-315, 1971.

Daily i.p. administration of p-chlorophenylalanine (PCPA) (320mg/kg), which lowered brain serotonin to 34% of its normal level within 3 days, failed to inhibit the development of tolerance to opiate induced running activity or analgesia. Under these same conditions, PCPA had no effect upon the development of physical dependence. Levorphanol induced running was potentiated by PCPA and inhibited when serotonin levels were restored by administration of 5-hydroxytryptophan, even in the presence of PCPA. PCPA treatment caused neither potentiation nor inhibition of levorphanol induced analgesia. 20 references. (author abstract)

**082787** King, Carl D.; Jewett, Robert E. Department of Pharmacology, Emory University, Atlanta, Georgia 30322 The effects of alpha-methyltyrosine on sleep and brain norepinephrine in cats. *Journal of Pharmacology and Experimental Therapeutics*. 177(1):188-195, 1971.

It has been proposed that central nervous system norepinephrine (NE) is essential for the occurrence of rapid eye movement (REM) sleep. We have tested this hypothesis by treating cats with alpha-methyltyrosine (alpha-MT), a drug that lowers brain catecholamine levels by inhibiting the rate limiting step in catecholamine biosynthesis. In 1 series of cats, doses ranging from 3.125 to 400mg/kg and placebo were given, i.p. The drug elevated REM sleep, both absolute min and percentage. In a separate set of cats, alpha-MT (100mg/kg i.p.) was found to lower NE levels in various regions of the brain. Also, one of the original cats used for the electroencephalographic studies was given alpha-MT, 100mg/kg, then sacrificed after 8 hours of electroencephalographic recording and the brain analyzed for NE. While REM sleep was elevated, brain NE was depressed. We conclude that in cats whose NE levels have been reduced by as much as 70% in brain areas said to be responsible for the active processes of REM sleep, REM sleep can nevertheless occur in increased amounts. This does not support the NE hypothesis of REM sleep. It also shows that the sedation produced by

alpha-MT is akin to the deeper phases of natural sleep. 25 references. (author abstract)

**082799** Randt, Clark T.; Barnett, Brauna M.; McEwen, Bruce S.; Quartermain, David. Department of Neurology, New York University School of Medicine, Millbank Laboratories, New York, New York 10016 Amnesic effects of cycloheximide on two strains of mice with different memory characteristics. *Experimental Neurology*. 30(3):467-474, 1971.

The amnesic effects of the protein synthesis inhibitor cycloheximide were studied in two strains of mice (C57BL/6J; DBA/2J) which have opposite temporal gradients of retention for single trial passive avoidance learning. Mice were given a single trial in a passive avoidance apparatus 30 min after a saline or a cycloheximide injection and tested for retention at 7 intervals from 1 min to 72 hr following. Saline injected C57BL/6J mice showed poor initial retention followed by progressive improvement which was sustained for 72 hr. In contrast, saline injected DBA/2J mice showed good retention shortly after training followed by absence of retention 6 hr after training. A 3mg dose of cycloheximide produced significant amnesia in both strains but the memory impairment was greater in the C57BL/6J strain when tested at 5 min. Increased early amnesia occurred when DBA/2J mice were given 5mg of cycloheximide even though this dose did not significantly increase degree of protein synthesis inhibition. These results indicate that cycloheximide can disrupt short-term as well as long-term memory and, in addition, raise the question whether the amnesic effect is due exclusively to inhibition of protein synthesis. 11 references. (author abstract)

**082858** Gray, J. A.; Mayes, A. R.; Wilson, M. Institute of Experimental Psychology, Oxford, England A barbiturate-like effect of adrenocorticotrophic hormone on the partial reinforcement acquisition and extinction effects. *Neuropharmacology*. 10(2):223-230, 1971.

Rats were trained to run in a straight alley for a food reward, either with reward on every trial (continuous reinforcement, CR) or with reward on a random 50% of trials (partial reinforcement, PR), and then extinguished. Control animals, injected with gel, showed the usual partial reinforcement acquisition effect (increased running speed in PR animals relative to CR animals at the end of training) and partial reinforcement extinc-

tion effect (increased resistance to extinction in PR animals), but both these effects were absent in rats injected daily during acquisition with 8 I.U. adrenocorticotrophic hormone (ACTH), the drugged PR animals and the drugged CR animals behaving like undrugged CR controls. Neither 2 nor 4 I.U. ACTH daily during acquisition had these effects, though both doses increased acquisition running speed. The results obtained with 8 I.U. ACTH closely resembled those previously obtained with amylobarbitone. 17 references. (author abstract)

**082859** Gray, J. A.; Dudderidge, Hilary. Institute of Experimental Psychology, Oxford, England Sodium amylobarbitone, the partial reinforcement extinction effect, and the frustration effect in the double runway. *Neuropharmacology*. 10(2):217-222, 1971.

Rats were trained to run in a double runway for food rewards, and the learned response was subsequently extinguished in the first runway only. During training, half the rats were given continuous reinforcement in the first goalbox and half were given random 50% partial reinforcement. Of each of these groups, half were injected with sodium amylobarbitone (15mg/kg i.p.) daily during acquisition of the response and half were injected with saline. All animals were continuously reinforced in the second goalbox and all were injected with saline during extinction. During acquisition, the partially reinforced animals displayed greater running speed in the second runway after nonreward than after reward in the first goalbox (a double runway frustration effect); they also increased their resistance to extinction in the first runway. Amylobarbitone attenuated the increased resistance to extinction due to partial reinforcement but did not affect the double runway frustration effect. 22 references. (author abstract)

**082860** Marcus R. J.; Winters, W. D.; Roberts, E.; Simonsen, D. G. Brain Research Institute, University of California School of Medicine, Los Angeles, California 90024 Neuropharmacological studies of imidazole-4-acetic acid actions in the mouse and rat. *Neuropharmacology*. 10(2):203-215, 1971.

The present study evaluated the behavioral and electroencephalographic activity induced by imidazoleacetic acid in unrestrained rats and mice. The results indicate that imidazoleacetic acid has central nervous system excitant properties similar

to gamma-hydroxybutyrate. This activity was potentiated by pentylenetetrazol, picrotoxin, and strychnine. The apparent prolongation of phenobarbitone sleeping time following imidazoleacetic acid appears to be related to the induction of a cataleptoid state. The actions of imidazoleacetic acid appears to be related to the induction of a cataleptoid state. The actions of imidazoleacetic acid and gamma-hydroxybutyrate were antagonized by caffeine. The possible relationship of these findings to energy supply for neuronal membrane function is discussed. 24 references. (author abstract)

**082881** Bignami, Giorgio; de Acetis, Luigi; Gatti, Gian Luigi. Laboratori di Chimica Terapeutica, Istituto Superiore di Sanita, Viale Regina Elena 299, 00161 Rome, Italy Facilitation and impairment of avoidance responding by phenobarbital sodium, chlordiazepoxide and diazepam--the role of performance base lines. *Journal of Pharmacology and Experimental Therapeutics*. 176(3):725-732, 1971.

The effects of phenobarbital sodium (10 to 60mg/kg s.c.), chlordiazepoxide hydrochloride (10 to 60mg/kg s.c.) and diazepam (1 to 10mg/kg i.p.) were studied in rats performing a continuous lever pressing avoidance task with light as warning signal. The conditions of this discriminated Sidman avoidance test were the following: shock - shock interval equals 30 seconds; response - warning signal equals 20 seconds; warning signal - shock equals 10 seconds; shock of 2 mA for 2 seconds. Interindividual differences in control shock base lines after an extended period of training influenced the direction of the drug effects, whereas differences between drugs were mostly of a quantitative nature. In fact, all agents provoked a decrease in shock rate in animals with high shock base lines and an increase in shock rate in animals with low shock base lines. The latter effect was more marked after diazepam than after phenobarbital or chlordiazepoxide. Response rates were generally increased, particularly in animals with low or intermediate shock rates after treatment with phenobarbital or chlordiazepoxide. Dose dependent increases in the relative frequency of responses emitted in the absence of the warning signal were observed after all drugs, also in cases in which overall response rate was little affected. 28 references. (author abstract)

**085234** Fog, Rasmus; Pakkenberg, Henning. Psychopharmacological Laboratory, Sct. Hans Hospital, E, Roskilde, Copenhagen, Denmark Behavioral effects of dopamine and p-hydroxyamphetamine injected into corpus striatum of rats. *Experimental Neurology*. 31(1):75-86, 1971.

The behavioral effects of dopamine and parahydroxyamphetamine injected into the corpus striatum of rats were observed to provide some direct anatomical evidence about the site of action of the 2 drugs. Bilateral intrastratial 5 microliter micronjections of para-hydroxyamphetamine 100micrograms/side and of dopamine (200micrograms/side) were made in awake rats. Neither drug passes the blood - brain barrier well. The injections gave rise to a stereotyped hyperactive behavior similar to that seen after subcutaneous injection of amphetamine. Control injections in the thalamus and hippocampus were without effect, neither were injections of noradrenaline (100-200 micrograms side) in the corpus striatum. Spreading of tritiated dopamine intracerebrally was controlled by using autoradiography and scintillation counting. These experiments, along with earlier ones, strongly indicate that the amphetamine type of stereotyped behavior is mediated through dopaminergic mechanisms in the corpus striatum. 28 references. (Author abstract modified)

**085236** MacPherson, Catherine F. C.; Chinerman, Jakub. Allen Memorial Institute of Psychiatry, McGill University, Montreal 110, Quebec, Canada Effect of intraventricular injections of brain isoantibodies on learning. *Experimental Neurology*. 31(1):45-52, 1971.

The effect of intraventricular injections of serum gamma-globulin (IgG) prepared from normal rats and from rats which had been immunized with rat brain microsomes (RB F-III) or rat liver microsomes (RL F-III) on performance of a visual discrimination problem is studied in rats. The present method of assessing the effects of anti-brain isoantibody on learning involves multiple slow intraventricular injections of IgG into the lateral ventricles of chronically prepared unanesthetized subjects. Injections of 80 microliter of normal rat IgG on the 8 days preceding training had no adverse effect on the abilities of the subjects to learn a visual discrimination problem. Such trained subjects also performed at criterion after they received an additional intraventricular injection of normal IgG on the day

they reached criterion. In contrast, subjects that had received anti-brain IgG before training performed below criterion after they received an intraventricular injection of normal IgG on the day they reached criterion. Subjects that received intraventricular injections of immune IgG prepared from the sera of rats that had been immunized with RB F III or RL F III required a statistically significant larger number of trials to learn a visual discrimination problem than control subjects that received normal rat IgG. The anti-RB F III IgG had a more widespread effect than the anti-RL F III in that it produced subjects with statistically significantly higher latencies, poorer memories, and an unusual behavioral trait tentatively called spinning. The effect of the anti-RL F III is believed to be due to its reaction with species specific antigens in the brain whereas the more deleterious effect of the anti-RB F III IgG is thought to be due to its reactivity with both species specific and organ specific antigens in the brain. The present experiments have confirmed and extended the results obtained earlier with actively immunized subjects. 11 references. (Author abstract modified)

**085333** Trafton, Clinton L; Marques, Paul R. Department of Psychology, University of Arizona, Tucson, Arizona 85721 Effects of septal area and cingulate cortex lesions on opiate addiction behavior in rats. *Journal of Comparative and Physiological Psychology*. 75(2):277-285, 1971.

To investigate the effects of brain lesions on opiate addictive behavior, groups of rats were given bilateral lesions in the septal area or cingulate cortex and then subjected to a regimen previously shown to produce drug addiction in animals. The addiction was indexed by a learned preference for a bitter morphine hydrochloride (HCl) solution. The subjects were also tested for relapse following a 2 week withdrawal of drugs. Bilateral anterior cingulate cortex lesions resulted in a decrement in both the acquisition and retention (relapse) of drug oriented behavior. Bilateral septal lesions produced no changes in addiction behavior. Further tests indicated that the results apparently were not due to any effects of cingulate cortex lesions on reactions to the bitter taste of morphine HCl. 16 references. (Author abstract modified)

**085419** Redmond, D. Eugene, Jr.; Maas, James W.; Kling, Arthur; Dekirmenjian, Haroutune. Il-

Illinois State Psychiatric Institute, 1601 West Taylor Street, Chicago, Illinois 60612 Changes in primate social behavior after treatment with alpha-methyl-para-tyrosine. *Psychosomatic Medicine*. 33(2):97-113, 1971.

The catecholamine hypothesis of the affective disorders relates the depressive syndromes in man to a deficiency of dopamine and norepinephrine. Two subjects within a social group of nonhuman primates were treated with alpha-methyl-para-tyrosine, an inhibitor of the synthesis of these catecholamines and social behavior was observed. Quantifiable social interactions and appearance changed with drug treatment. Both treated animals initiated fewer total social interactions, including grooming, threats and attacks. Total social responses and social - sexual presentations remained stable. The animals showed retarded motor activity and assumed withdrawn postures, huddled with arms crossed and heads hung low. Their social - affective responses and facial expressions suggested a lack of concern with the environment. These behaviors, similar in some ways to the depressive state as seen in man, were reversible, and were accompanied by a decreased excretion of 2 metabolites of norepinephrine. An attempt to reverse the syndrome in 1 animal using L-dihydroxyphenylalanine was unsuccessful. This model may provide some insight into the neurochemical mechanisms of the human depressive syndromes. Further efforts to reverse the syndrome may have therapeutic relevance as well. 52 references. (Author abstract modified)

**086105** Kayan, Sabih; Woods, L. A.; Mitchell, C. L. Department of Pharmacology, University of Iowa College of Medicine, Iowa City, Iowa 52240 Morphine-induced hyperalgesia in rats tested on the hot plate. *Journal of Pharmacology and Experimental Therapeutics*. 177(3):509-513, 1971.

The ability of repeated morphine administration to produce hyperalgesia was studied in rats. The hot plate procedure was used to measure changes in the animal's response latency. The response latency was measured twice at 30 minute intervals, before the injection of the experimental agent and again at 30, 60, 90, 120, 180 and 240 minutes after drug administration. Morphine (5mg/kg) or saline (2ml/kg) was given s.c. for varying periods of time. It was found that chronic morphine administration produced hyperalgesia between 60 and 120 minutes after the drug. This hyperalgesia was found not to be the result of a

morphine - test interaction. Acute administration of nalorphine, 5mg/kg, delayed the onset of the hyperalgesic response produced by morphine. Studies designed to delineate the responsible mechanisms for this phenomenon may be useful in understanding the analgesic effect of morphine. 11 references. (author abstract)

**086126** No author. Author address not given Behavior and how it is affected by drugs is being investigated by the North Carolina Department of Mental Health by using spiders as laboratory animals. *Journal of the Indiana State Medical Association*. 64(4):321, 1971.

The North Carolina Department of Mental Health is investigating the behavior of spiders in response to drugs. A computer is programmed with the normal spider web and its normal variations. Conditions in the lab are simulated to effect early morning conditions, and the spiders are tested with drugs (hallucinogens, amphetamines, barbiturates or tranquilizers) against a control population. Differences in the spider webs are analyzed by the computer. Both mental and physical abnormalities have been recorded.

**086155** Henriksson, Bengt G.; Jarbe, Torbjorn. Department of Psychology, University of Uppsala, Uppsala, Sweden Cannabis-induced vocalization in the rat. *Journal of Pharmacy and Pharmacology (London)*. 23(6):457-458, 1971.

In a letter to the editor, the author describes an experiment in which the minimal doses necessary to affect vocalization in rats under the influence of cannabis was compared with bar-pressing behavior for food in a fixed ratio (FR) program. The animals were tested with cannabis extract or synthetic delta-tetra-hydrocannabinol (THC), dissolved in propylene glycol or olive oil and administered intraperitoneally or orally, and with pure cannabis smoke in a closed chamber. Vocalization could be produced in animals given: extract, in propylene glycol, in doses of 5mg/kg, i.p. or more; extract, in propylene glycol or olive oil, orally in doses of 50mg/kg or more; raw material, inhaled as smoke; delta-8-THC, in propylene glycol, in doses of 1.5mg/kg, i. p. or more; and delta-9-THC, in propylene glycol, in doses of 2mg/kg, i.p/ or more. Vocalization did not occur when the animals were given: extract in olive oil, in doses of 70mg/kg, i.p., or less, or in doses of 35mg/kg, orally, or less; solvents only, given i.p. or orally; tobacco, inhaled as smoke; or delta-9-

THC in propylene glycol, 0.80mg/kg, i.p. 5 references.

**086156** Richardson, J. Steven; Stacey, P. David; Cerauskis, Peter W.; Musty, Richard E. Department of Psychology, University of Vermont, Burlington, Vermont Propranolol interferes with inhibitory behaviour in rats. *Journal of Pharmacy and Pharmacology (London)*. 23(6):459-460, 1971.

In a letter to the editor, the author states that propranolol disrupts the performance of rats on a DRL-20 operant conditioning schedule, a task requiring the inhibition for 20 sec of a previously learned response in order to receive reinforcement. Five min before each DRL-20 session, 5 rats were given a 5mg/kg i.p. injection of propranolol dissolved in 0.9% saline, 5 rats received 12.5mg/kg of the drug, 5 rats had saline, and 5 rats had no injection. Less than 10% of the responses of the 2 drug groups were reinforced on most of the 15 days of DRL, while the 2 control groups rapidly improved to 30% reinforced responses. The effects of propranolol on the performance of a task requiring inhibition of a previously learned response, suggest functions of the amygdala. 6 references.

**086186** Adams, P. M.; Crawford, F. T. Behavioral Science Laboratory, Department of Neurology and Psychiatry, University of Texas Medical Branch, Galveston, Tex. 77550 Spontaneous activity and water intake in the rat under the effects of scopolamine HBr and magnesium pemoline. *Psychonomic Science*. 23(1B):111-112, 1971.

Two experiments were conducted to analyze the effects of scopolamine HBr (hydrobromide) and magnesium pemoline on spontaneous activity and water intake in the rat. Both drugs were found to increase the level of wheel running but with different temporal parameters. Water intake was increased by magnesium pemoline, whereas scopolamine decreased the amount of water consumed during the activity increase. Results are discussed with regard to the interpretation of drug effects on performance in appetitive and nonappetitive reward situations. 11 references. (Author abstract)

**086423** Khavari, Khalil, A. Psychology Department, University of Wisconsin, Milwaukee, Wisconsin 53201 Adrenergic-cholinergic involvement in modulation of learned behavior. *Journal of Comparative and Physiological Psychology*. 74(2):284-291, 1971.

In a study of adrenergic - cholinergic involvement in modulation of learned behavior, selected doses of 2 anticholinergics (atropine and scopolamine) and a sympathomimetic drug (d-amphetamine) were injected intraperitoneally or directly into the cerebral ventricle of rats. All treatments produced analogous changes in the performance of learned behavior. These data implicate a dichotomous CNS adrenergic - cholinergic neurotransmitter mechanism in the control of learned behavior. Furthermore, they suggest that the observed behavioral changes are manifestations of transitory memory impairment. 18 references. (Author abstract modified)

**086771** Porsolt, R. D.; Joyce, Daphne; Summerfield, A. Department of Psychology, Birkbeck College, London, England Amphetamine-barbiturate mixtures: learning and retention in rats. *Activitas Nervosa Superior (Praha)*. 13(2):75-77, 1971.

Thirsty rats were required to run without error to one side of a T-maze water reward, in order to test the effect of a mixture of amphetamine and barbiturate upon their learning and retention ability. A correction procedure was used to allow the rat to correct any errors and still receive his reward. The learning criterion was 5 consecutive errorless trials. In 4 groups of 10 animals, saline, amphetamine sulphate (0.75mg/kg), amylobarbitone sodium (15mg/kg), and a mixture of the 2 drugs were injected i.p. 20 min before the trial. The results revealed that both the amphetamine and mixture groups learned the maze more quickly than did the saline group. There is no difference between the mixture and amphetamine scores, and the amylobarbitone injected rats were significantly inferior to controls. Thus, both amphetamine and the mixture facilitated learning although fewer initial errors were made with the mixture; with amylobarbitone by itself, learning was retarded. In a second experiment naive rats who learned to run through the maze without drugs were required to reverse the direction of running by training under drug effect. After the reversal learning under drugs, drug treatment was terminated and they were required to relearn the original procedure. The results showed that although the mixture facilitates learning as effectively as amphetamine alone, retention is impaired when the drug is withdrawn. 4 references.

**086772** Marriott, A. S. Allen and Handburys Ltd., Ware, Hertfordshire, England Dissociative effects of drugs on the extinction of conditioned sup-

pression in the rat. *Activitas Nervosa Superior (Praha)*. 13(2):73e74, 1971.

Chlordiazepoxide and amylobarbitone were investigated for dissociative effects on the extinction of conditioned suppression in the rat. Water deprived animals were placed in a cage that had a recessed drinking tube sensitive to touch. A recorder registered the time interval (latency) for 15 licks. Rats were injected s.c. with saline and placed into the drinking cage for 2.5min daily until latencies had decreased to a low constant level, after which they were shocked by placing them in the cage with the tube removed. Daily extinction trials were commenced 48hr after the shock and latencies recorded, increased latencies being considered the measure of conditioned suppression. Before each extinction trial (30 min) 10 rats were injected with drug (chlordiazepoxide 20mg/kg or amylobarbitone 30mg/kg) and 10 rats with saline. Complete reversal of extinction was observed in rats extinguished in the presence of either drug when replaced by saline. Similar reversals were found when saline extinguished rats were treated with amylobarbitone, but not when saline extinguished rats were given chlordiazepoxide which did not reduce latencies in naive rats but produced significant latency increases. Amylobarbitone produced no significant change in the latencies of naive animals; and no marked increase in latency was found in drug habituated rats after removal of either drug. Differential effects of drugs on encoding and deciphering mechanisms may explain why dissociation is bidirectional with some drugs and unidirectional with others. 2 references.

086809 Huidobro, F. Department of Pharmacology, Catholic University of Chile, Casilla 114-D, Santiago, Chile Some relations between tolerance and physical dependence to morphine in mice. *European Journal of Pharmacology (Amsterdam)*. 15(1):79-84, 1971.

Tolerance to morphine analgesia and precipitated physical dependence were studied in mice under different conditions. There was a gradual loss of tolerance during the continuous absorption of morphine from a pellet. Tolerance was decreased by nalorphine during morphine absorption. An attenuated physical dependence was observed 2 or 4 days after a single dose of morphine. In animals previously treated with pellets of morphine, single doses of morphine induced less tolerance than in mice that had never been

implanted with pellets; in both cases cycloheximide prevented development of tolerance. Tolerance persisted for more than 20 days after absorption of the morphine pellet. These results reinforce the hypothesis that tolerance and physical dependence are produced by a similar mechanism and that an inhibitory process of tolerance exists. 18 references. (author abstract)

086825 No author. Author address not given Rat drug addicts. *Therapeutics*. 1(5):40, 1971.

Physical and psychic dependence on drugs, withdrawal symptoms, responsiveness to methadone treatment, and the tendency to relapse into addiction are similar conditions for both rat and human drug addicts. With the repeated use of morphine in rats, 2 changes occur: first, tolerance develops, followed by physical dependence. Once drug dependent, the rats learn to press a lever in their cages for more fixes. Rats were found to stop injecting themselves with morphine when given enough synthetic drug such as methadone.

086858 Sivadjan, J. Institut Pasteur, 25 rue du Docteur Roux, 75-Paris 15, France /The action of lysergic acid diethylamide (LSD-25) on conditioning and sedation./ L'action du diethylamide de l'acide lysergique (LSD-25) sur le conditionnement et la sudation. *Therapie (Paris)*. 25(4):813-821, 1971.

Guinea pigs, placed in a conditioning box and treated with 0.25mg/kg of lysergic acid diethylamide (LSD-25) scratch their abdomen or their snout, bite the protruding parts of the box, cough one or twice, and sniffle. The animals turn around several times in their compartment and perform frequent spontaneous passages from one compartment to the other, but, as soon as they hear the sound signal, they panic and turn around and around several times, advance towards the barrier, then step back, before changing the compartment. They sometimes remain in place after these precipitated movements. LSD at this dosage, therefore, does not suppress the conditioned reflex, but modifies its nature, the final jumping being preceded by a disordered and precipitated running in place or simply replaced by it. At high dosages (0.50 and 0.75mg/kg), it causes headjerking. LSD-25 displays a sudorific action on the sweat secretion, suppressed with an anhidrotic. 5 references. (author abstract)

086900 Johnson, F. N. Department of Psychology, University of Birmingham, P.O. Box 363, Bir-

mingham B15 2TT, England Stimulus significance and chlorpromazine effects on the expression of avoidance learning in mice. *Neuropharmacology (Oxford)*. 10(3):267-272, 1971.

Mice trained in a one trial passive avoidance learning situation were treated with chlorpromazine (2mg/kg i.p.) 10 min before being tested 24 hr after training. The reduced expression of learned avoidance and the accelerated extinction noted under the influence of the drug were found to be offset if the experimental subjects had received prior training in a T-maze in which the discriminanda were the same as those used in the avoidance learning situation. These findings are related to a possible mechanism of action of the drug involving the reduction of apparent stimulus significance. The likely physiological basis of such a mechanism is briefly discussed. 19 references. (author abstract)

086901 Heise, G. A.; Boff, E. Indiana University Stimulant action of d-amphetamine in relation to test compartment dimensions and behavioral measure. *Neuropharmacology (Oxford)*. 10(3):259-266, 1971.

Effects of graded doses of d-amphetamine on avoidance lever pressing were measured for 3 groups of rats tested in either a 'long', 'medium' or 'short' compartment. The increase in avoidance rate was significantly less in the long compartment than in the medium or short compartments and the shape of the dose - response curve was different. In the long compartment, in addition, drug effects on general activity, as defined by the rate of breaking a photoelectric cell beam, were measured concurrently with avoidance lever pressing. The minimum dose that increased beam break rate was lower than the minimum dose that increased avoidance rate. The proportional increase in rate with increasing dose was greater for beam breaks than for lever presses. These drug behavior - apparatus relationships were analyzed in terms of the differential interference by drug enhanced general activity on lever pressing rates in the 3 different sized compartments. 10 references. (author abstract)

086902 Rubinstein, E. H.; Sonnenschein, R. R. Department of Physiology, University of California School of Medicine, Los Angeles, California 90024 Modifications of the 'alarm' pattern by nicotine. *Neuropharmacology (Oxford)*. 10(3):247-258, 1971.

The effect of nicotine on the behavioral and autonomic response pattern, 'alarm', evoked in awake cats implanted with recording devices by stimulation of stereotaxically oriented hypothalamic electrodes was studied. Before stimulation, the lowest effective intravenous infusion rate of nicotine (10mcg/min) induced EEG desynchronization, increased gastrointestinal motility and decreased heart rate. As the infusion rate was raised to 50mcg/min, the arterial pressure increased, and moderate iliac and mesenteric vasoconstriction occurred. The effects of nicotine on the response to short hypothalamic stimulation (100 to 500 msec) were: less tachycardia, a marked post-stimulus enhancement of gastrointestinal motility, a decreased threshold for growling, and an increased number of somatic responses (head turn). The effects of nicotine on the response to long hypothalamic stimulation (1 to 5 sec) were, in addition, a more marked pressor response and a reduction of the iliac vasodilatation. 23 references. (author abstract)

087344 Wahlstrom, Goran; Widerlov, Erik. Department of Pharmacology, University of Uppsala, Uppsala, Sweden Interaction and acute cross tolerance between ethanol and hexobarbitone in the rat. *Journal of Pharmacy and Pharmacology*. 23(1):58-60, 1971.

Acute cross-tolerance and interaction between ethanol and hexobarbitone was measured in male rats (350g) by correlation between blood concentration of alcohol and suppression of barbiturate induced EEG bursts of activity. The threshold dose of hexobarbitone necessary to obtain suppression of the bursts for 1 second or more was determined, at which time the infusion was stopped and ensuing sleeping time recorded. Ethanol was administered as a 20% solution (i.p.) with blood samples taken from the tail vein for gas chromatography determinations. A linear relation was found between blood - ethanol concentration and decrease in barbiturate threshold dose when the latter were made on the decreasing part of the blood - ethanol concentration curve. Sleeping times before and after ethanol were not significantly changed. Larger decreases in barbiturate threshold dose were found on the rising part of the blood - ethanol curve, but no statement concerning linearity can be made. Acute cross-tolerance appears to exist between these 2 drugs from the results obtained in this study. 9 references.

087360 Shillito, Elizabeth E. A.R.C. Institute of Animal Physiology, Babraham, Cambridge, England Effect of parachlorophenylalanine on the behaviour of castrated male rats. *British Journal of Pharmacology (London)*. 41(2):404, 1971.

Since increased sexual behavior has been observed in male rats treated with parachlorophenylalanine (PCPA), the effect of this compound on castrated rats was investigated to determine if testosterone was involved in the increased sexual behavior. The untreated castrated rats behaved differently from intact rats in that they were less active and did not always become active when the light was changed from white to red; they had very little social interaction. Twenty four hr after an i.p. injection of PCPA (316mg/kg) they became active when the lights changed and mounting, not seen in the untreated castrated animals, was observed. Rats which were both adrenalectomized and castrated were effected in a similar way. These results indicated that the effect of PCPA is not dependent on the presence of testosterone. 5 references.

087361 Anlezark, G. M.; Arbuthnott, G. W.; Christie, J. E.; Crow, T. J. Department of Physiology, University of Aberdeen, Scotland Role of cerebral dopamine in the action of psychotropic drugs. *British Journal of Pharmacology (London)*. 41(2):406-407, 1971.

Similarities between the behavioral actions of amphetamine-like drugs and the effects of stimulation through electrodes chronically implanted in the region of the ventral mesencephalon in rats are reported. There is a close correspondence between the sites from which electrical self-stimulation can be obtained and the location of dopamine containing cell bodies. Sniffing, licking and gnawing can be elicited by stimulation through the same electrodes, and are frequently accompanied by an increase in locomotor activity. The results of experiments with catecholamine synthesis inhibitors, and with electrodes implanted in other neural pathways through this area, support the hypothesis that all 3 effects of stimulation are related to activation of dopamine containing neurons. Thus, the dopamine containing system arising from the ventral mesencephalon may function as an activating system involved in the effects of positive reward on operant behavior. 7 references.

088069 Gallup, Gordon G., Jr.; Nash, Richard F.; Brown, Charles W. Tulane University, New Orleans,

Louisiana 70118 The effects of a tranquilizer on the immobility reaction in chickens: additional support for the fear hypothesis. *Psychonomic Science*. 23(1B):127-128, 1971.

In terms of number of inductions needed to elicit the immobility response, chickens given metoserpate hydrochloride (Pacitrane) were found to be significantly less susceptible to immobility than controls. The duration of resulting immobility reactions was also found to be inversely related to drug dosage levels, with controls remaining immobile over 3 times longer than chicks receiving an optimal dosage. The results were interpreted as lending support to the notion that fear is what underlies tonic immobility reactions in young chicks. 9 references. (Author abstract)

088070 Walsh, J. Michael; Guralnick, Michael J. Department of Psychology, American University, Washington, D.C. 20016 The effects of epinephrine and chlorpromazine on visual cliff behavior in hooded and albino rats. *Psychonomic Science*. 23(1A):1-3, 1971.

Infant hooded and albino rats were tested on the visual cliff and observed for a 5 min period after receiving injections of epinephrine, chlorpromazine, or a placebo. Hooded animals chose the shallow side of the visual cliff more often than albinos and spent more time on that side. They were also more emotional, as measured by fecal bolus counts. Albinos explored more, as indicated by their higher activity and crossover scores. Epinephrine tended to increase the emotionality of the albinos and markedly facilitated the response of avoiding the deep side of the visual cliff. Strain differences evident in visual cliff behavior were discussed in terms of differences in emotionality rather than ability to perceive depth. 22 references. (Author abstract)

088071 Bauer, Ellen R.; Reynolds, E. Vicar, III. College of William and Mary, Williamsburg, Virginia 23185 D-amphetamine and palatability of a saccharin solution. *Psychonomic Science*. 23(1A):3-4, 1971.

The effect of d-amphetamine on the taste consciousness and intake of a saccharine solution by rats is studied. Twenty four female albino rats were assigned randomly to receive a 7 day series of 3.0mg/kg injections of either d-amphetamine sulfate in isotonic saline or saline IP. Half of each group drank .13% sodium saccharin solution, the other half water. Fluid intakes were analyzed as

intake per unit body weight. No differences were found among groups prior to drug administration. The prediction that d-amphetamine would produce a more taste conscious animal was not substantiated. D-amphetamine produced a decrease in saccharin intake and an increase in water intake relative to saline controls. 9 references. (Author abstract modified)

088491 Stein, Larry; Wise, C. David. Wyeth Laboratories, Inc., Philadelphia, Pennsylvania 19101 Possible etiology of schizophrenia: progressive damage to the noradrenergic reward system by 6-hydroxydopamine. *Science*. 171(3975):1032-1036, 1971.

Single or repeated intraventricular injections of 6-hydroxydopamine caused marked and long lasting deficits in brain self-stimulation and other rewarded behaviors in the rat. The behavioral deficits, as well as the depletion of brain norepinephrine induced by 6-hydroxydopamine, were prevented by prior treatment with chlorpromazine. Episodic or continuous formation of endogenous 6-hydroxydopamine in man as a result of a genetically determined enzymatic error could selectively damage the binding capacity and, eventually, the structural integrity of the noradrenergic reward mechanism. Such damage might cause the fundamental symptoms and long-term downhill course of schizophrenia. 56 references. (author abstract)

088571 Mugford, Roger A.; Nowell, Norman W. Department of Psychology, The University of Hull, England The preputial glands as a source of aggression-promoting odors in mice. *Physiology and Behavior*. 6(3):247-249, 1971.

Injection of testosterone propionate (TP) into female mice increases aggressive attacks from males, and the size of their preputial glands. Experiments were designed to relate these 2 findings. Sprayed females injected with TP increased the aggressiveness of previously mated, isolated males. This aggressiveness was reduced by preputialectomy of such females, though not to the level of that elicited by placebo injected controls. The urine of spayed, TP injected females was shown to contain an aggression eliciting pheromone, which induced male fighter mice to increase their aggressiveness towards castrate male opponents. The effectiveness of this pheromone was not reduced by preputialectomy. It is concluded that androgens can stimulate the

release of aggression eliciting pheromone from 2 sources in the female. One, from the preputial glands, it is suggested, might act as a social signaling device during agonistic encounters and the other, present in the urine, might control wider aspects of behavior in mouse populations. 7 references. (author abstract)

088581 Edwards, David A. Department of Psychology, Emory University, Atlanta, Georgia 30322 Neonatal administration of androstenedione, testosterone or testosterone propionate: effects on ovulation, sexual receptivity and aggressive behavior in female mice. *Physiology and Behavior*. 6(3):223-228, 1971.

Neonatal female mice were exogenously administered either androstenedione (AD), testosterone (T), or testosterone propionate (TP) on days 1, 2 and 3 after birth. Control females were given oil neonatally. As adults, all females were ovariectomized and scored for the presence or absence of ovulation. All females were then given estrogen and progesterone and tested for sexual receptivity. All females were then administered TP and were tested for aggressive behavior. Females given either TP, T or AD neonatally were, for the most part, anovulatory. Following administration of estrogen and progesterone in adulthood, females given either TP, T or AD neonatally showed little or no sexual receptivity. Following androgen stimulation in adulthood, females given either TP or T neonatally showed significantly more aggression than females given only oil neonatally. These results support the hypothesis that testosterone, or one of its metabolites, is the defeminizing agent in the neonatal male mouse. Analyses of quantitative and qualitative differences in the defeminizing effectiveness of the different steroids were also discussed. 15 references. (author abstract)

088582 Davis, John W.; Thomas, Roger K., Jr.; Adams, H. E. Department of Psychology, University of Georgia, Athens, Georgia Interactions of scopolamine and physostigmine with ECS and one trial learning. *Physiology and Behavior*. 6(3):219-222, 1971.

Twelve groups of 10 rats were trained on a one trial, passive avoidance task and were tested for retention 4 hr later. Six groups received electroconvulsive shock (ECS) immediately following the learning trial, and the remaining 6 groups were

in a non-ECS condition. The 6 groups in both the ECS and non-ECS conditions were divided into 3 groups which received either saline, scopolamine or physostigmine injections before the learning trial and 3 groups which received the injections before the retention trial. The results suggested that physostigmine prior to the learning trial or scopolamine prior to the retention trial protected memory from the normally disruptive effects of ECS. In addition, scopolamine alone before the learning trial or physostigmine alone before the retention trial had a disruptive effect on retention. Results are discussed in terms of influences of the drugs and/or ECS on acetylcholine activity. 8 references. (author abstract)

**088584** Schechter, Martin D.; Winter, J. C. Department of Pharmacology, Medical College of Virginia, Richmond, Virginia 23219 Effect of mescaline and lysergic acid diethylamide on flicker discrimination in the rat. *Journal of Pharmacology and Experimental Therapeutics*. 177(2):461-467, 1971.

Rats were trained on a multiple schedule of positive reinforcement. A stationary light source flickering at 100 cps provided the discriminative stimulus (Sd). In the presence of Sd, reinforcement was contingent upon a fixed ratio 10 schedule. The same light source flickering at either 20 or 30 cps constituted the S-delta period. Mescaline, at doses of 40 and 60 micromole/kg, produced a significant decrease in discriminative ability, whereas lysergic acid diethylamide (0.2, 0.3 and 0.4 micromole/kg) caused a significant increase. A dose of mescaline (20 micromole/kg) which by itself had no significant effect on discrimination, significantly reduced the increase caused by lysergic acid diethylamide. Likewise, a subeffective dose of lysergic acid diethylamide (0.1 micromole/kg) significantly antagonized the depression of discriminative ability caused by mescaline. These results indicate that flicker discrimination provides a sensitive measure of drug action in the rat. The pharmacologic data suggest that lysergic acid diethylamide and mescaline are mutually antagonistic in this system. 29 references. (author abstract)

**088640** Ahlenius, S.; Engel, J. Department of Pharmacology, University of Goteborg, Goteborg, Sweden Effects of small doses of haloperidol on timing behaviour. *Journal of Pharmacy and Pharmacology (London)*. 23(4):301-302, 1971.

Rats were trained to lever press to get food pellets on a DRL-20 schedule (differential reinforcement of low rates), whereby a depression of the lever produced the pellet only if it followed the preceeding lever depression by at least 20 sec. Following i.p. injection with haloperidol (0.01 to 0.03 mg/kg), the 0.02 mg/kg dose significantly increased the frequency of short inter-response times (IRT) but the other 2 dosages did not. The observed stimulant effect of the narrow dose range of haloperidol may be due to an increased physiological release of transmitters, which overcame the blockade of the receptors. When the dose of haloperidol was increased, the receptor-blockade dominated. 8 references.

**088672** Panksepp, Jaak. Laboratory of Experimental Psychology, University of Sussex, Brighton, England Drugs and stimulus-bound attack. *Physiology and Behavior*. 6(4):317-320, 1971.

The effects of chlordiazepoxide and methamphetamine on stimulus-bound attack were studied. Chlordiazepoxide essentially abolished stimulus-bound affective attack while decreasing the threshold of quiet-biting attack. Methamphetamine accentuated affective attack and increased the threshold of quiet-biting. In general, the drug effects on stimulus-bound affective attack simulated changes that occur during reflexive fighting, and the drug effects on quiet-biting attack tended to simulate effects found with spontaneous mouse killing. 5 references. (author abstract)

**088679** Ortiz, Aurelio; Glover, Alice; Lang, William J. San Marcos University, School of Medicine, Pharmacology Department, P.O. Box 2694, Lima, Peru Rhe effects of acute and chronic administration of chlorpromazine on the acquisition and extinction of positively reinforced operant responses. *Physiology and Behavior*. 6(4):407-412, 1971.

Chlorpromazine (CPZ) depressed the acquisition of positively reinforced conditioned responses in rats. The degree of depression depended on the dose level and the difficulty of the task. High doses blocked the learning process at an early stage, and had a greater depressant effect than did a lower dose at the same stage. Chronic treatment even if discontinued during training decreased performance of a previously learned task and facilitated extinction. Continued chronic treatment decreased motor activity and ability to acquire a discriminative response. It is proposed

that CPZ affects learning not only by depressing motor activity, but also by impairing other processes that are involved in the acquisition of conditioned responses. It appears that chronic CPZ has little permanent effect on the ability to learn new tasks, but may affect the retention of previously learned responses. 25 references. (author abstract)

088681 Cooper, Barrett R.; Black, William C.; Paolino, Ronald M. Department of Psychology, Purdue University, Lafayette, Indiana 47907 Decreased septal-forebrain and lateral hypothalamic reward after alpha methyl-p-tyrosine. *Physiology and Behavior*. 6(4):425-429, 1971.

Twelve rats were trained to respond for reward using electrical brain stimulation to either the lateral hypothalamus (LH) or septal-forebrain (SF) using a rate-free measure. Administration of DL alpha-methyl-p-tyrosine produced a dose dependent decrease in responding for stimulation at both sites. The magnitude of this decrease was additionally found to be dependent upon both electrode placement and the current intensity of stimulation. DL-p-chlorophenylalanine did not produce any significant changes in performance. These results are consistent with a hypothesis of noradrenergic basis of reward despite the reported behavioral and other differences accompanying self-stimulation of LH and SF in bar-pressing situations. 19 references. (author abstract)

088730 van der Poel, A. M.; Remmelts, M. Department of Fundamental Pharmacology, University of Leiden, Wassenaarseweg 62, Leiden, The Netherlands The effect of anticholinergics on the behaviour of the rat in a solitary and in a social situation. *Archives Internationales de Pharmacodynamie et de Therapie (Gand)*. 189(2):394-396, 1971.

Scopolamine caused profound, dose dependent changes of the social behavior of rats, while methyl-scopolamine in the same dose range was totally devoid of such an influence. Apparently peripheral anticholinergic effects have nothing to do with the observed effects of scopolamine. Analysis of the dose response relations of the aggressive behavioral elements indicates that scopolamine influences the aggressive system as a whole. 3 references. (author abstract)

088973 Hockman, Charles H.; Perrin, Richard G.; Kalant, Harold. Brain Research Laboratory,

Department of Pharmacology, University of Toronto, Toronto 5, Canada Electroencephalographic and behavioral alterations produced by delta 1-tetrahydrocannabinol. *Science*. 172(3986):968-970, 1971.

The administration of 3 doses (0.5, 1.0 and 4.0mg/kg) of delta 1-tetrahydrocannabinol to 6 freely moving cats with indwelling electrodes produced a disruption of both the electroencephalogram and behavior. Some of these alterations, including the appearance of a high-voltage slow wave electroencephalogram in the awake and moving animal, have been observed in cats that had been administered other drugs known to cause hallucinogenic states in man. 12 references. (author abstract modified)

089015 Segal, David S.; Squire, Larry R.; Barondes, Samuel H. Department of Psychiatry, University of California, San Diego, La Jolla, California 92037 Cycloheximide: its effects on activity are dissociable from its effects on memory. *Science*. 172(3978):82-84, 1971.

Cycloheximide, when injected subcutaneously or intracerebrally, produces changes in the activity level of mice. Isocycloheximide, injected intracerebrally, produces identical effects on activity, but it does not produce inhibition of cerebral protein synthesis or amnesia. Amphetamine, in doses that can antagonize the amnesic action of cycloheximide, does not antagonize the effect of cycloheximide on activity. Effects of cycloheximide on activity do not appear to be responsible for its amnesic action. 9 references. (author abstract)

089027 Lew, Clara; Iversen, Susan D.; Iversen, L. L. Department of Experimental Psychology, University of Cambridge, Cambridge, England Effects of imipramine, desipramine and monoamine oxidase inhibitors on the metabolism and psychomotor stimulant actions of d-amphetamine in mice. *European Journal of Pharmacology (Amsterdam)*. 14(4):351-359, 1971.

Treatment of mice with imipramine or desipramine (0.5 to 20.0mg/kg) failed to enhance the stimulant effects of d-amphetamine on motor activity. Studies on the disappearance of tritium labelled d-amphetamine indicated that imipramine and desipramine also failed to affect the uptake and disappearance of amphetamine in the mouse brain, in contrast to the actions of these drugs in the rat. Treatment with the monoamine oxidase

inhibitors pheniprazine and iproniazid, however, potentiated the stimulant effects of d-amphetamine (3mg/kg) on locomotor activity in mice, although the responses to larger doses of d-amphetamine were depressed. These monoamine oxidase inhibitors also interfered with the metabolism of 3H-amphetamine, and significantly delayed the disappearance of amphetamine from the mouse brain. It is suggested that the latter effect may contribute to the enhanced responses to amphetamine observed after pheniprazine and iproniazid. Pargyline was less effective in potentiating the stimulant actions of amphetamine, and had no significant effect on the disappearance of amphetamine from the brain. 19 references. (author abstract)

089060 Stretch, Roger; Gerber, Gary J.; Wood, Susan M. Department of Psychology, University of Western Ontario, London 72, Ontario, Canada Factors affecting behavior maintained by response-contingent intravenous infusions of amphetamine in squirrel monkeys. *Canadian Journal of Physiology and Pharmacology (Ottawa)*. 49(6):581-589, 1971.

Behavior developed and maintained in previously untrained monkeys by a modified progressive-ratio schedule of response contingent intravenous infusions of d-amphetamine is described. Availability of amphetamine infusions can be restricted to relatively brief (2 h) daily sessions, once responding has been established, without disruption of self-administration behavior. When amphetamine infusions are replaced by saline, responding is reduced immediately to a low rate; when amphetamine infusions are replaced by saline and the session is preceded by an intramuscular injection of the drug (1.5mg/kg), the pattern of responding is indistinguishable from that observed when drug infusions are available. If an external discriminative stimulus, normally associated with those periods in which infusions are available, is withdrawn, responding is reduced to a low rate. The discriminative stimulus entered into control of the behavior only when amphetamine had been administered by intravenous infusion or by intramuscular injection beforehand, reflecting, therefore, some form of 'state dependence'. Possible sources of interoceptive stimulation, arising from an infusion per se, did not control behavior to any significant extent. Results emphasize the need for specific control procedures when drug self-administration is to be conceptualized as an operant reinforcement effect. 16 references. (author abstract)

089332 Clark, Carol V. H.; Vernadakis, Antonia. Department of Psychiatry, University of Colorado Medical Center, Denver, Colorado 80220 Sex differences in brain deoxyribonucleic acid and cholinesterase activity in rats. *American Journal of Physiology*. 220(6):1775-1778, 1971.

Cortisol (10mg/kg body wt) or 0.9% NaCl was administered to male and female rats, days 8 to 11 after birth. Their later performance in an open field and in acquisition, performance, and extinction of operant responding for water reward was studied. The cortisol treated male rats pressed the bar at a higher rate and received fewer reinforcements than did the male controls in the first session on a schedule in which low rates of response were differentially reinforced (DRL). This inefficient behavior could be interpreted as an increased emotional response to a stressful situation. No differences were observed between cortisol treated and control females. No differences were observed in DNA content or cholinesterase activity in the CNS structures studied between control and cortisol treated rats at 65 days of age. However, significant biochemical differences were observed between males and females. Males had lower DNA content in the cerebral cortex and diencephalon, higher acetylcholinesterase and butyrylcholinesterase (BuChE) activities in the cerebellum, and lower BuChE activity in the hypothalamus. 20 references. (author abstract)

091225 Schneider, Carl W.; Chenoweth, Maynard B. Biochemical Research Laboratory, The Dow Chemical Company, Midland, Michigan 48640 Effects of cycloheximide on restricted behavioral patterns of mice. *Brain Research (Amsterdam)*. 25(3):625-631, 1971.

Cycloheximide has been used extensively in investigations on the effects of inhibition of protein synthesis on interference with long-term memory formation. Surprisingly, little is known about the effects of the drug on general behavioral patterns. To better understand these effects, the immediate and long-term effects of cycloheximide on the exploratory activity and nest building behavior were examined in mice. The effects of the drug on both behaviors were immediate and, in the case of nest building, quite prolonged. An important component of nest building (location of the nest site) was permanently altered in many animals at higher doses. 19 references. (Author abstract modified)

092317 Madlafousek, Jaroslav; Hlinak, Zdenek. Psychiatric Research Institute, Prague 8-Bohnice, Czechoslovakia Neuropsychopathology research group: laboratory of comparative neuropsychopathology. In: *Psychiatric Research Institute: Annual Report, 1968-1970*. Prague, Psychiatric Research Institute, 1971. 115 p. ( p. 44-51).

Activities of the neuropsychopathology research group and of the laboratory of comparative neuropsychopathology for the period of 1968 to 1970 are reported in the annual report of the Psychiatric Research Institute. A long-term research project is directed toward contributing information to answer the question of how the brain selects and works out environmental information which initiates and intensifies sexual arousal in the male. The laboratory has been working in close contact with the department of clinical neuropsychopathology which has been working experimentally on sexually deviant patients under the same presumption of the primacy of brain deviation. The animals chosen as experimental subjects by the laboratory are the monkey and the albino rat. Development and application of electostimulatory procedures are described. Studies of male behavior was investigated as a requisite to the attaining the research aims. Alteration of hormonal activity was used as a manipulatory procedure, and results of this manner of controlling female sexual behavior on the sexual behavior of the male animals are summarized. Experimental devices now in development as aids in the research are described.

092976 Chu, Nai-shin; Sheu, Yng-Shiuh; Bloom, Floyd E. Laboratory of Neuropharmacology, NIMH, St. Elizabeths Hospital, Washington, D. C. 20032 Norepinephrine-containing neurons: spontaneous activity during waking and sleeping in freely behaving cats (Unpublished paper). Washington, D. C., NIMH, 1971.

The involvement of neurons in the regulation of sleep mechanisms were studied by recording the activity of single units during wakefulness and sleep in freely moving, unrestrained, unanesthetized cats. The single unit recordings were correlated with simultaneous observations of cortical and limbic EEG, nuchal and extraocular electromyograms, and gross behavior. Results obtained thus far indicate that a large number of neurons within the locus coeruleus exhibit high rates of discharge during quiet wakefulness (20 to

40/sec) and that they become even more active during periods of both slow wave sleep (SWS) and paradoxical sleep (PS). When animals are given amphetamine by intraventricular cannula, locus coeruleus neurons appear to fire more rapidly, but animals do not sleep; by the same technique, chlorpromazine also facilitates the discharge rate of these neurons for long periods of time, and there is more frequent occurrence of sleep stage EEG's. When 6-hydroxydopamine is given intraventricularly (total of 2.3mg over 3 intraventricular injections in 2 days) locus coeruleus neurons were initially depressed, but resumed much higher firing rates several days after the last intraventricular injection. During this time, suppression of sleep was not observed. (Author abstract modified)

093694 McKinney, William T., Jr.; Suomi, Stephen J.; Harlow, Harry F. author address not given *The sad ones. Psychology Today*. 4(12):61-63, 1971.

An experimental research program is described where monkeys are used in the study of depression. This work, performed at the University of Wisconsin's Regional Primate Research Center, is a continuation of previous studies which showed that total social isolation can profoundly affect the development of monkeys. In the present work, depression was induced in the laboratory by separating rhesus monkeys who had formed social bonds with each other at various ages and for varying lengths of time. In general, the monkeys suffered a 2 stage reaction to separation of protest, then despair; after prolonged solitary confinement some of the monkeys continued to be withdrawn and regressed even several months after return to groups of their peers. Current experiments on the biochemical aspects of depression, using monkeys doped with reserpine and other agents, are also described. 5 references.

093696 Snyder, Solomon H. author address not given *Cannabis. Psychology Today*. 4(12):39, 1971.

A capsule primer on marijuana is presented. The plant is described and its historical use in different countries is discussed. The resin that contains the psychoactive material (delta-1-tetrahydrocannabinol, or THC) is shown to be chemically dissimilar to the psychedelic drugs such as LSD or mescaline. However, hashish is a derivative of the drug cannabis that is about 10 times more powerful and has the capacity to

produce hallucinogenic and psychotomimetic effects. Recent experiments on animals that caused changes in brain wave, or EEG, patterns that persisted for several weeks after withdrawal of the drug are cited as proof of the need for more research on marijuana's long-term effects.

**093953** Dorr, Marian; Joyce, Daphne. Department of Pharmacology, University College, London, England Persistence of dose related behaviour in mice. *Nature (London)*. 231(5298):121-123, 1971.

Animal experimentation is reported wherein the effects of behavior altering drugs persist long after evidence of drug retention has ceased. Mice were used in the experiments, and the drug used was a mixture of dexamphetamine and chlor-diazepoxide. A possible explanation could be that memory of drug induced behavior may be reactivated when, long after the body chemistry is presumed to be free of drugs, the animal is reexposed to the original test situation. 15 references.

**094255** Frankenheim, J. M.; McMillan, D. E.; Harris, L. S. Dept. of Pharmacology, University of Western Australia, Nedlands, Western Australia 6009 Effects of 1-delta-9 and 1-delta-8-trans-tetrahydrocannabinol and cannabinal on schedule-controlled behavior of pigeons and rats. *Journal of Pharmacology and Experimental Therapeutics*. 178(1):241-252, 1971.

Dose response curves were determined for the effects of some Cannabis sativa constituents on pigeons conditioned to peck a key under a multiple fixed-ratio, fixed-interval (mult FR FI) schedule of food presentation, or under a schedule that required the spacing of pecks 20 to 24 seconds apart, and on rats conditioned to press a lever for water under a mult FR FI schedule. 1-Delta-9- and 1-delta-8-trans-tetrahydrocannabinol (delta9- and delta8-THC) caused dose dependent decreases in the rates of key pecking under both components of the mult FR FI schedule in pigeons. Cannabinal, in doses up to 180mg/kg, had no effect on key pecking of pigeons under the mult FR FI schedule. Under the temporally spaced responding schedule delta9- and delta8-THC decreased the rate of responding, disrupted the temporal pattern of responding and increased the frequency of long interresponse times of the pigeons. Delta9-THC decreased the rate of lever pressing of rats under both components of the mult FR FI schedule. The decreases in response rates lasted as long as 24 hours after the highest

doses of the THC's in the pigeons and the rats. Increases in the rate of responding were not observed under any schedule in either species. 55 references. (Author abstract)

**095197** Warburton, David M.; Brown, Kenneth. Department of Psychology, University of Reading, England Attenuation of stimulus sensitivity induced by scopolamine. *Nature (London)*. 230(5289):126-127, 1971.

In an experiment using male albino rats and a form of analysis based on the theory of signal detectability, the hypothesis that scopolamine hydrobromide increases response in situations which require response suppression has been confirmed. Investigation methods are described; and the following results are specified: the drug modifies behavior by reducing signal to noise ratio rather than lowering response criterion; and the drug disrupts attention mechanisms by impairing the ascending cholinergic reticular pathways. 11 references.

**095364** Cherkin, Arthur; Meinecke, Richard O. Psychobiology Research Laboratory, Veterans Administration Hospital, Sepulveda, Calif. 91343 Suppression of fighting behaviour in rabbits by paired emergence from anaesthesia. *Nature (London)*. 231(5299):195-196, 1971.

A prolonged suppression of aggressive behavior can be induced by allowing aggressive rabbits to recover in pairs from barbiturate anesthesia. The methodology of the experiments is discussed; sodium pentobarbital was the drug used in the study. Observations lead to the conclusions that (1) when aggressive rabbits recover simultaneously in 1 cage, the usual traumatic attack behavior is suppressed as long as the pair is together; and (2) pairing during recovery decreases attack behavior for at least 1 week. Observations in studies on other animal species are cited, and the suggestion is made that clinical evaluation of assaultive human patients may merit consideration. 9 references.

**095382** Schmaltz, Leonard W. Department of Psychology, University of Wisconsin, Charter at Johnson St., Madison, Wisconsin 53706 Deficit in active avoidance learning in rats following penicillin injection into hippocampus. *Physiology and Behavior*. 6(6):667-674, 1971.

The effect of penicillin on the behavioral processes of rats is examined. Penicillin was

found to cause epileptiform (spike) activity when injected into the hippocampus of male rats. Animals so prepared were found to be severely impaired in the acquisition of a two-way active avoidance task. Animals with bilateral hippocampal destruction produced by aspiration and animals receiving an antibiotic, sodium sulfadiazine, which did not cause epileptiform activity learned the task as quickly as did unoperated animals. In a second study, rats were trained on the two-way task and then subjected to penicillin injection. They rapidly reached the preoperative criterion showing significant amounts of retention. The fact that they were able to perform the avoidance response quite readily suggested that the impaired animals in Experiment 1 were not suffering from some basic sensory or motor loss. 17 references. (journal abstract modified)

**095383 Moltz, H.; Leon, M.; Numan, M.; Lubin, M.** Department of Psychology, The University of Chicago, Chicago, Illinois Replacement of progesterone with a phenothiazine in the induction of maternal behavior in the ovariectomized nulliparous rat. *Physiology and Behavior*. 6(6):735-737, 1971.

The effect of replacement of progesterone with a phenothiazine in the induction of maternal behavior in the ovariectomized nulliparous rat is studied. Full maternal behavior is induced in the ovariectomized nulliparous rat when estrogen and prolactin are injected against a background of progesterone withdrawal. The hypothesis advanced was that progesterone at first elevates activation thresholds within the maternal mediating system and then, upon withdrawal, decreases these thresholds to levels lower than normal. It is during this presumed state of heightened neuronal excitability that estrogen and prolactin are pictured as being able to act on the mediating system to facilitate responsiveness to the sight, sound and odor of young. This hypothesis implies that an agent capable of effecting the kind of 'rebound' attributed to the withdrawal of progesterone should substitute for progesterone in the induction of maternal behavior. Perphenazine, an amino derivative of chlorophenothiazine, was selected because of its demonstrated biphasic action on activity thresholds in cortical and subcortical brain areas. Used in place of progesterone in an injection schedule that included estrogen and prolactin, perphenazine was found as effective as

progesterone in inducing maternal behavior. The data were held to support the hypothesis regarding the priming effect of progesterone withdrawal on the maternal mediating system. 9 references. (journal abstract)

**095385 Branchey, Marc; Branchey, Laure; Nader, Ronald D.** Department of Psychiatry, Downstate Medical Center, State University of New York, New York Effects of estrogen and progesterone on sleep patterns of female rats. *Physiology and Behavior*. 6(6):743-746, 1971.

The effects of estrogen and progesterone on sleep patterns of female rats are studied. Sleep-wakefulness cycles were recorded in ovariectomized female rats that were injected with estrogen plus progesterone and estrogen alone. Two daily injections with estrogen followed by progesterone resulted in significant reductions in the percentages of time spent in both REM and NREM stages of sleep during the night following the injection of progesterone. Treatment with estrogen alone for six consecutive days resulted in a reduction in REM sleep but did not appear to influence NREM sleep. Thus, both hormone treatments modified sleep, but the combined action of estrogen and progesterone more closely duplicated the sleep patterns observed in the intact animal on the night of behavioral estrus. 15 references. (journal abstract)

**095549 Jacobs, Barry L.; Farel, Paul B.** Department of Psychology, University of California, Los Angeles, California Motivated behaviors produced by increased arousal in the presence of goal objects. *Physiology and Behavior*. 6(5):473-476, 1971.

In an experiment with rats the feeding produced by pentobarbital injections is compared with hunger induced feeding. Low doses of sodium pentobarbital injected i.p. in satiated rats increased wet mash intake to approximately the level of a 24 hour food deprived animal. Intakes of quinine adulterated mash and a nonnutritive bulk substance were similar for the pentobarbital injected animals and for 24 hour food deprived animals. Further tests demonstrated that the drug potentiates pain-elicited aggression, but has no effect on running in an activity wheel. These data are incorporated in an hypothesis that increased arousal in the presence of a goal object is sufficient to elicit the consummatory response appropriate to that goal object. 29 references. (journal abstract modified)

096150 Kumar, R.; Mitchell, E.; Stolerman, I. P. Department of Pharmacology, University College, London, England Disturbed patterns of behaviour in morphine tolerant and abstinent rats. *British Journal of Pharmacology (London)*. 42(3):473-484, 1971.

The eating, drinking and spontaneous motor activity were studied in rats receiving large daily doses of morphine. These forms of behavior were largely suppressed when the rats were made abstinent and were restored when morphine was given again. Compensation for depressions of behavior during abstinence did not seem sufficient to account for all the stimulant effects of morphine in tolerant rats. Morphine also had slight stimulant actions in nontolerant rats. In tolerant rats, the repeated pairing of the effects of morphine with the reemergence of behavior such as eating and drinking may intensify the rewarding value of the drug. 39 references. (journal abstract modified)

097456 Ellinwood, Everett H., Jr. Department of Psychiatry, Duke University Medical Center, Durham, North Carolina Effect of chronic methamphetamine intoxication in rhesus monkeys. *Biological Psychiatry*. 3(1):25-32, 1971.

Rhesus monkeys chronically intoxicated with methamphetamine displayed a much greater repertoire of stereotyped behavior than is noted in lower animals. In general, the form of these patterns was considerably more analogous to the human condition. The most notable stereotype pattern in rhesus monkeys is that involving hand eye probing and examining movements. These patterns of behavior are directed toward external objects as well as being integrated into grooming responses. The similarities between amphetamine induced patterns in human and those observed in rhesus monkeys are discussed. With larger doses of methamphetamine, stereotypes became more constricted, compulsive, and bizarre. Often repeated tics and dyskinesias appeared in the later stages of chronic intoxication. 10 references. (Journal abstract)

097739 Squire, Larry R.; Glick S. D.; Goldfarb, J. Department of Psychiatry, University of California, San Diego, La Jolla, California 92037 Relearning at different times after training as affected by centrally and peripherally acting cholinergic drugs in the mouse. *Journal of Comparative and Physiological Psychology*. 74(1):41-45, 1971.

A study is made of relearning at different times after training as it is affected by centrally and peripherally acting cholinergic drugs to evaluate the role of peripheral cholinergic synapses in these effects in the mouse. Mice were tested for retention of a spatial task, 1, 7, or 14 days after training. Normal animals exhibited savings after 1 or 7 days, but not after 14 days. Mice given physostigmine before the retention test was impaired 1 day after training, but exhibited savings at both 7 and 14 days after training. Neostigmine, a peripherally acting anticholinesterase, had no effect when administered alone 1 day after training. Methscopolamine, a peripherally acting anticholinergic agent, had no effect when administered alone, but antagonized the behavioral effects of physostigmine. Apparently, both central and peripheral actions of physostigmine are necessary to affect performance in this task. 8 references. (Author abstract modified)

097914 Department of Health, Education, and Welfare; Richardson, Elliot L. Washington, D. C. Preclinical studies in animals. In: *HEW, Marihuana and Health*. Washington, D.C., U.S. Government Printing Office, 1971. 100 p. (p. 39-49).

A wide range of animal investigations designed to learn some of the implications of cannabis administration in a variety of animal species is summarized. It is included primarily for the technically sophisticated reader as a summary of the present state of marihuana preclinical investigation. It should be emphasized that such research may have no immediate relevance to human use of marihuana, and that it could be serious error to translate these findings directly to the human case. High dose levels are frequently employed in animals to learn the limits of toxicity (not possible in human experimentation). Moreover, the methods of drug administration (and form of the drug) are often markedly different from the usual ways in which marihuana is used by people and may have different implications. Nevertheless animal work is essential to a more sophisticated understanding of the action of the drug and to developing useful clues to fruitful lines of investigation in man. Where specific findings appear to have direct relevance to human use of marihuana, an attempt is made to interpret this in the summary or in other relevant sections of the report. Topics pertaining to the preclinical studies in animals include: toxicity studies; central ner-

vous system effects; autonomic and cardiovascular effects; effect on respiration; hypothermic, neurophysiological, behavioral, and hormonal effects; antibiotic activity; teratology; interaction with other drug; biochemical studies and metabolism. 69 references.

098159 Potts, W. J.; East, P. F. Department of Pharmacology, G. D. Searle and Co., P. O. Box 5110, Chicago, Illinois 60680 The effect of prostaglandin E2 on conditioned avoidance response performance in rats. *Archives Internationales de Pharmacodynamie et de Therapie (Gent, Belgium)*. 191(1):74-79, 1971.

The effect of Prostaglandin E2 on the conditioned avoidance response performance of male Fischer rats was investigated, and its administration was found to cause significant depression in both naive and trained rats. The effect was greater when the rats were tested immediately rather than 30 minutes after injection. Prostaglandin E2 was shown to have specific tranquilizing effects rather than general sedative effects. 5 references. (Journal abstract modified)

098207 Estler, C.-J.; Ammon, H. P. T. Institute of Pharmacology, University of Erlangen-Nurnberg, Erlangen, Germany Modification by two beta-adrenergic blocking drugs of the effects of methamphetamine on behavior and brain metabolism of mice. *Journal of Neurochemistry*. 18(5):777-779, 1971.

The combined effects of methamphetamine and the beta-adrenergic blocking drugs INPEA and propranolol on spontaneous motor activity and metabolites of the cerebral carbohydrate metabolism are described. Methamphetamine enhances motor activity and produces a decrease of the glycogen and an increase of the pyruvate content of the brain. INPEA and propranolol diminish methamphetamine-induced motor excitation and prevent or reverse the changes in the cerebral glycogen and pyruvate contents produced by methamphetamine. Glycogenolysis and - at least in part - central stimulation, too, are ascribed to the sympathomimetic properties of methamphetamine. The results are compared with those of a previous study with methamphetamine and propranolol. 17 references. (Journal abstract modified)

098295 Lehmann, K.; Oelszner, W. Institut für Pharmakologie und Toxikologie, Medizinische

Akademie 'Carl Gustav Carus', 801 Dresden, German Democratic Republic /The involvement of central cholinergic mechanisms in the formation and inhibition of conditional reflexes in rats./ Die Beteiligung zentral-cholinerger Mechanismen an Ausbildung und Hemmung bedingter Reaktionen bei Ratten. *Acta Biologica et Medica Germanica (Magdeburg)*. 26(3):559-566, 1971.

Oxotremorine, arecoline, and nicotine caused a dose related inhibition of a stabilized conditional reflex in young male Wistar rats placed in a shuttle box. All of the drugs were administered subcutaneously in doses of 0.2ml/100g. Atropine antagonized the inhibition caused by oxotremorine and arecoline; the antinicotinic substance Gr-858 (atropine) acted antagonistically against the nicotine induced inhibition. Small doses of nicotine facilitated the acquisition and stabilization of this reflex and increased the frequency of intersignal reactions. Arecoline showed no reliable effect. In analogy to the inhibition of nociceptive reactions the action of oxotremorine and arecoline is considered as a central muscarine - like mechanism, the inhibition by nicotine, however, as a toxic effect. Some possibilities are discussed for the facilitating action of nicotine. 39 references. (Author abstract modified)

098297 Wenzel, J.; Kruger, E.; Muller, M. Neuropsychopharmakologische Abteilung, Institut für Pharmakologie und Toxikologie, Hartelstrasse 16-18, 701 Leipzig, German Democratic Republic Inhibition of pentetrazol-induced hypersynchronous activity in the thalamocortical system by ethosuximide. Hemmung Pentetrazol-induzierter hypersynchroner Aktivität im thalamo-kortikalen System durch Ethosuximid. *Acta Biologica et Medica Germanica (Magdeburg)*. 26(3):567-572, 1971.

Nine male Wistar rats with permanently implanted electrodes over the motoric and visual cortex, the olfactory bulb and in the dorsal hippocampus were pretreated with ethosuximide and its influence was evaluated upon pentetrazol induced spindle activity, and on facilitation of light - evoked physiological rhythms; taking into account behavioral parameters. Ethosuximide fully suppressed the pentetrazol induced spindle activity, whereas photic afterdischarges are being significantly reduced. The muscular tone and startle reflexes released by click stimuli are reduced. The rhythmic activities are considered as an expression of synchronized afterdischarges of the thalamocortical system and the influence of

pretreatment with ethosuximide is seen in an ascending reticular activation or as a direct influence on inhibitory cells in the thalamic relays. 16 references. (Author abstract modified)

**098300 Korsak, Zofia.** Department of Physiology, Polish Academy of Sciences, Przedzalniana Str. No. 72, Lodz, Poland Aggression and flight reactions induced by continuous increase of blood osmolality. *Acta Physiologica Polonica (Warszawa)*. 21(4):347-358, 1970.

In a study of aggression and flight reactions induced by continuous increase of blood osmolality, experiments were carried out on 48 cats. During a continuous increase of osmotic pressure within the extracellular fluid the changes in cats' behavior were stated. Three successive phases were distinguished: 1) Docility and somnolence appeared at a glucose concentration in arterial blood plasma averaging 726mg/100ml and osmotic pressure 335mOsm/kg H<sub>2</sub>O; 2) Agonistic emotional excitation occurred when the glucose concentration exceeded an average of 1946mg/100ml and osmotic pressure 357mOsm/kg H<sub>2</sub>O; 3) Clonotonic convulsions appeared at the glucose concentration exceeding an average of 3036mg/100ml and osmotic pressure 413mOsm/kg H<sub>2</sub>O. Similar changes in animal behavior were observed at lower values of arterial plasma osmolality, for example, after intravenous infusion of sodium chloride. The resistance of cats to molecular pressure was found to be higher during glucose than sodium chloride infusion. The optimal increase of arterial plasma glucose and osmolality for the development of emotional exteriorizations amounted to 14.1mg/100ml and 0.33mOsm/kg H<sub>2</sub>O respectively. The dependence of behavioral changes, induced in cats by excitation of appropriate nervous structures, on the degree of nerve cells dehydration was assumed. 15 references. (Journal abstract modified)

**098306 Joseph, Thangam; Shanthakumari, G.** Department of Pharmacology, St. John's Medical College, Bangalore-34, India Central nervous system effects of *Sida retusa* root. *Japanese Journal of Pharmacology (Kyoto)*. 21(1):136-138, 1971.

The effects on the central nervous system of *Sida retusa* root (a plant native to India and locally used for treatment of rheumatism and various neurological complaints) are investigated with a view to substantiating the use of the drug in ayurvedic medicine. Parameters assessed in the

experimentation include alertness, state of wakefulness, response to touch and sound, gait, tremors, and convulsions, compared to the predrug behavior. Of the various extracts of the root tested on gross behavior of mice, only the crude extract produced a sedative effect, and it did not have any protective effect against amphetamine or leptazol induced toxicity, or any analgesic effect or anticonvulsant activity. 1 reference.

**098483 Martin, R. Chris; Deemer, B. L.; McArdle, Nancy; Stokely, Susan; Steiner, Solomon.** University of Missouri, Kansas City, Mo. 64110 The effects of chlorpromazine on self-punitive behavior. *Psychonomic Science*. 23(5):339-340, 1971.

After usual treatment conditions were instated to produce the self punitive behavior phenomenon, different dose levels of chlorpromazine (or appropriate amounts of saline) were administered to different groups of rats. The overall effects of the drug were suppression of performance. The most interesting result occurred at the low dose level, in that only the punished group was affected by the drug. These findings support the Mowrer-Brown theoretical explanation of self-punitive behavior. In addition, these findings indicate that the self-punitive paradigm has promise as a drug screen technique. 5 references. (Journal abstract)

**098924 Webster, C. D.; Willinsky, M. D.; Her-ring, Barbara S.; Walters, G. C.** Addiction Research Foundation, Toronto, Canada Effects of 1-delta-tetrahydrocannabinol on temporally spaced responding and discriminated Sidman avoidance behavior in rats. *Nature (London)*. 232(5311):498-501, 1971.

Rats given 1-delta-tetrahydrocannabinol (THC) - a known hallucinogen for man - were tested on 2 standard behavioral tasks: (1) responding on a differential reinforcement of low rate (DRL) schedule and (2) discriminated Sidman avoidance. If a drug screening procedure is to be useful in the study of the effects of THC or other hallucinogenic drugs, it must be capable of reflecting subtle changes in behavior at low dose levels, and the particular pattern of change must be reasonably stable from animal to animal and from one drug test to the next. The widely varying results of the first experiment indicate that the DRL schedule does not meet either requirement

when rats are used as subjects. With the discriminated Sidman avoidance schedule, rats did show definite drug effects at low doses, and the drug effects were consistent with the main aspects of the Smythies type avoidance profile for hallucinogens (increased premature and late responding). 13 references.

**099110** Wallach, Marshall B.; Angrist, Burton M.; Gershon, Samuel. Neuropsychopharmacology Research Unit, Psychiatry Department, New York University Medical Center, New York, N.Y. 10016 The comparison of the stereotyped behavior-inducing effects of d- and -amphetamine in dogs. *Communications in Behavioral Biology*. 6(2):93-96, 1971.

The d- and l-amphetamines were administered intravenously to dogs and the stereotyped behavior was rated. d-Amphetamine was 1.4 times as potent as l-amphetamine in inducing stereotyped behavior in the dog. This correlates closely with the psychotogenic potency of these isomers in humans established in other experiments and suggests the validity of animal stereotypy as a model for the human stimulant psychoses. 17 references. (Author abstract modified)

**099646** Schechter, Martin D.; Rosecrans, John A. Department of Pharmacology, Medical College of Virginia, Richmond, Virginia 23219 Behavioral evidence for two types of cholinergic receptors in the C.N.S. *European Journal of Pharmacology (An International Journal)* (Amsterdam). 15(3):375-378, 1971.

Rats were trained to make a specific behavioral response in a T-maze apparatus conditional upon whether they were injected with 0.4mg/kg nicotine or saline. Pretreatment with 0.25mg/kg atropine sulfate had no effect on the rats' ability to discriminate the central cueing effect of nicotine. The administration of 0.25 and 0.50mg/kg arecoline hydrobromide produced effects similar to saline. The results provide behavioral evidence for the possible existence of specific m- and n-cholinergic receptors in the central nervous system. 14 references. (Author abstract)

**099649** Allen, L.E.; Ferguson, H.C.; McKinney, G.R. Department of Pharmacology, Mead Johnson Research Center, Evansville, Indiana 47721 A survey of selected drugs on behavior performance in ethanol-treated rats. *European Journal of Pharmacology (An International Journal)* (Amsterdam). 15(3):371-374, 1971.

A survey of selected drugs and their effects on behavior performance in ethanol treated rats is reported. The study involved shock termination and quantification on the basis of the number of shocks not terminated. Certain antihistaminic drugs and a select few central nervous system stimulants were effective antagonists of ethanol induced depression of behavioral performance. Of the antihistamines, dimenhydrinate was the most active, followed in order of decreasing activity by diphenhydramine hydrochloride and the structurally similar analog, doxglamine succinate. Methylphenidate, pipradrol, and phenmetrazine were the effective stimulants. 4 references.

**099685** Lowe, G.; Williams, D.I. Department of Psychology, University of Hull, England Effects of cyprenorphine hydrochloride on sensory reinforcement in the rat. *Nature (London)*. 233(5316):208-209, 1971.

Doses of cyprenirphone hydrochloride (M285), (0.3mg/kg) a morphine antagonist, selectively depressed a sensory reinforcement effect without affecting non-reinforced operant responding in a response - contingent light offset (RCLO) situation in rats. In a different experimental situation (RCLO), the finding that M285 (at a dosage of 0.3mg/kg) selectively depresses a sensory reinforcement effect was replicated. The result, however, contradicts the expected increase in responding of the experimental M285 group, predicted from the hypothesis that visual stimulation is hallucinogenically intensified. A more likely explanation is that the sensory change is the critical stimulating and reinforcing factor, irrespective of whether this change involves onset or offset. Thus, response - contingent changes in sensory stimulation would be less rewarding for animals whose arousal level has been raised by M285 than for saline animals. 2 references. (Author abstract modified)

**099686** Malin, David H.; Golub, Arnold M.; McConnell, James V. Mental Health Research Institute, University of Michigan, Ann Arbor, Michigan Effect of an RNA-rich extract on acquisition of a one-way avoidance response in rats. *Nature (London)*. 233(5316):211-212, 1971.

RNA-rich extracts were obtained from the brains of trained rats, untrained controls, and yoked-shock controls (that is, rats receiving the same shocks as trained donors but prevented from learning the avoidance response). Rats receiving injections of extract from these 3

sources were compared on rate of acquisition of a jump up avoidance task. The mean number of avoidances during the 18 trials was 6.25 for animals receiving control group RNA, 5.83 for animals receiving yoked-shock control group RNA, and 10.5 for animals receiving experimental group extract. Individual rats receiving control group material ranged from 4 to 9 avoidances, while rats receiving experimental material ranged from 9 to 13. These individual scores were ranked and submitted to a Mann-Whitney U test. The resulting statistic was highly reliable. Yoked-shock recipients ranged from 3 to 10 avoidances. When these scores were ranked against the experimental recipient scores, the resulting test statistic was again highly significant. When the yoked-shock and control scores were ranked against each other, however, the resulting statistic was not significant. The enhancement of avoidance by extracts from trained donor brains is open to several interpretations. The chemical changes in trained animals responsible for this effect might reflect learning, or they simply might reflect general stimulation such as shock trauma, violent activity, of mere exposure to the experimental apparatus. The total ineffectiveness of extracts from yoked-shock donors argues against the latter conclusion. It should be noted that the cold phenol extract contained many impurities, in addition to RNA. Thus it is not certain that the enhancement was due entirely to RNA. 8 references. (Author abstract modified)

099697 Zimmerberg, B.; Glick, S.D.; Jarvik, M.E. Department of Pharmacology and Psychiatry, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, N.Y. 10461 Impairment of recent memory by marihuana and THC in rhesus monkeys. *Nature (London)*. 233(5318):343-345, 1971.

A study designed to elucidate the effects of marihuana on short term memory in rhesus monkeys using an automated delayed matching-to-sample task is described. In the laboratory, monkeys were trained to puff cigarettes for a water reward, and thus it was possible to study the effects of marihuana smoke while avoiding the set problems associated with human subjects. Another group of monkeys, trained on a similar memory task, was administered oral delta-9-tetrahydrocannabinol (THC). Significant memory impairment was established with both modes of administration. In the marihuana and THC stu-

dies, both the rate of responding and the accuracy were affected. The rate effects possibly confirm the conclusion that THC induces a 'loss of ability or motivations to perform complex tasks'. Results also strongly suggest that marihuana and THC have a definite effect on short term retention processes per se. This type of impairment is different from that shown with amphetamine, scopolamine, chlorpromazine, pentobarbital, LSD or mescaline on a similar task. By comparison with these other drugs, the specificity of THC is indeed remarkable. There was, however, no evidence of long-term effects. 11 references. (Author abstract modified)

099794 DiChiara, G.; Cambra, R.; Spano, P.F. Institutes of Pharmacology and Criminal Anthropology, University of Cagliari Evidence for inhibition by brain serotonin of mouse killing behavior in rats. *Nature (London)*. 233(5317):272, 1971.

The effect of modifying brain serotonin metabolism on mouse killing behavior induced in isolated rats with or without lesions in the anterior olfactory area was studied. Rats underwent bulbectomy or bulbotomy, were isolated, and treated with p-chlorophenylalanine (PCPA) which inhibits serotonin synthesis. L-5-hydroxytryptophan (5-HTP), serotonin's immediate precursor, or pargyline, a monoamine oxidase inhibitor were administered intraperitoneally to rats who had become killers as a result of isolation or bulbotomy. Fifteen min. after the mouse had been presented, only 50% of the animals treated with 5-HTP and 23% of those treated with pargyline killed the mouse. Moreover, none of the pargyline treated animals ate their victims. Inhibitory influences on the mouse killing by rats seem to originate in the anterior olfactory area. These results suggest that the olfactory nucleus is involved in the inhibition of mouse killing. Some inhibitory influences must originate within the olfactory bulb for PCPA produced many more killers among bulbectomized than sham operated animals. Either bulbectomy or PCPA alone induced mouse killing in only a percentage of animals; combination of the two was effective in 100% of the cases. The 2 procedures may act through different mechanisms. PCPA probably removes serotonergic inhibitory influences. Mouse killing is antagonized or suppressed in animals whose brain serotonin has been increased by 5-HTP or pargyline. The fact that PCPA poten-

tiates mouse killing behavior in rats but antagonizes other types of aggressiveness, indicates that the former is not only behaviorally but also biochemically different from the others. 11 references. (abstract)

**099826** Eldelberg, E.; Barstow, C.A. Division of Neurobiology, Barrow Neurological Institute of St. Joseph's Hospital and Medical Center, Phoenix, Arizona 85013 Morphine tolerance and dependence induced by intraventricular injection. *Science*. 174(4004):74-76, 1971.

Injection of small quantities of morphine into the cerebral ventricular system of awake, relatively unrestrained, monkeys depressed or abolished operant food reinforced lever pressing. After repeated injections, progressively higher doses of morphine were needed to depress responding. Also, dependence could be demonstrated in these animals by precipitating specific abstinence signs with an antagonist. 6 references. (Author abstract)

**099850** Sobotka, Thomas J. Food and Drug Administration, U.S.Dept.of Health, Education, and Welfare, Washington, D.C.20204 Behavioral effects of low doses of DDT. *Proceedings of the Society for Experimental Biology and Medicine*. 137(3):952-955, 1971.

Several behavioral and neurophysiological parameters were altered in mice acutely dosed with low doses of DDT. Open field exploratory activity was significantly enhanced 24 hours after an oral dose of DDT at 25mg/kg. Concomitantly, the animals' ability to habituate to the open field situation was attenuated. In a passive avoidance test DDT, at doses lower than 25mg/kg, alleviated the stress induced motor depression. Selected changes in the maximum electroshock seizure pattern reflected an increase in brain excitability. The possibility is advanced that DDT facilitates the central excitatory process, at least partially, by a disinhibitory mechanism. 19 references. (Author abstract)

**100048** Neathery, M.W. Department of Dairy Science, University of Georgia, Athens, Ga. 30601 Acceptance of organ lambs by tranquilized ewes (Ovis aries). *Animal Behaviour* (London). 19(1):75-79, 1971.

In 2 experiments the effects of intrajugular tranquilizer (Trilafon with 25mg perphenazine/ml) injections on the acceptance of orphan lambs by Hampshire ewes were investigated. With a 2ml in-

jection, 5 of 6 ewes raised orphan lambs to weaning compared with only 1 of 6 noninjected controls. None of 3 control ewes receiving a 1ml dose, 1 of 3 receiving two 1ml injections and 2 of 3 given 2ml injection raised their orphans. While the tranquilizer was effective in inducing ewes to permit nursing of orphans, data are insufficient to ascertain the most effective dosage levels, or the reasons for continual acceptance after tranquilizer effects diminish. 14 references. (Author abstract)

**100215** Bainbridge, J.G.; Greenwood, D.T. Pharmaceuticals Division, Imperial Chemical Industries Ltd., Alderley Park, Macclesfield, Cheshire, England Tranquilizing effects of propranolol demonstrated in rats. *Neuropharmacology* (Oxford, England). 10(4):453-458, 1971.

Propranolol was found to have an apparent tranquilizing effect in rats which had been conditioned to expect an electric shock and in rats made hyperreactive by means of septal lesions. This result cannot be attributed to blockade of beta-adrenergic receptors because the dextro isomer, which has practically no beta blocking properties, was as effective as the racemate in the septal rats. The relationship between these findings and clinical experience with propranolol in anxiety is discussed. 19 references.(Author abstract)

**100507** St-Laurent, J. Dept.de Psychiatrie, Faculte de Medecine, Univ.de Sherbrooke, Quebec Effect of trimethadione on the self-stimulation phenomenon. *Canadian Journal of Physiology and Pharmacology* (Ottawa). 49(9):850-853, 1971.

The effect of the anticonvulsant drug trimethadione on the self-stimulation (S.S.)phenomenon are studied on rats.S.S.is elicited via electrodes implanted in the posterior medial forebrain bundle (M.F.B.). Following administration of trimethadione (325mg/kg i.p.)a tendency toward improvement of S.S.is found; this trend is not statistically significant. The fact that no change of S.S. is observed in the areas of the posterior M.F.B.where seizures rarely occur is discussed in the light that the high rates of S.S.obtained from these areas might be related to the absence of disruptive epileptiform activity. It is concluded that the high rates of S.S.usually obtained from the posterior areas of the M.F.B.may be due to properties such as the involvement of these areas in high drive behavior and facilitation of motor activity. 15 references.(Author abstract)

100565 Hartmann, Roy J.; Geller, Irving. Department of Experimental Pharmacology, Southwest Foundation for Research and Education, San Antonio, Texas p-Chlorophenylalanine effects on a conditioned emotional response in rats. *Life Sciences*. 10(16):927-933, 1971.

The effect of p-chlorophenylalanine on conditioned suppression of the fear or anxiety type in rats was studied. Hungry rats learned to press a lever for a liquid food reward on a 2 minute variable interval schedule of reinforcement. Lever pressing was suppressed in the presence of a tone stimulus by pairing the tone with brief electric shocks. p-Chlorophenylalanine, the tryptophan hydroxylase inhibitor, produced an attenuation of the conditioned suppression. The effect was reversed in some animals by administration of 5-hydroxytryptophan. 8 references. (Author abstract modified)

100938 Goldstein, Avram; Sheehan, Patricia; Goldstein, Joshua. Dept. of Pharmacology, Stanford University School of Medicine, Stanford, California 94305 Unsuccessful attempts to transfer morphine tolerance and passive avoidance by brain extracts. *Nature (London)*. 233(5315):126-129, 1971.

Positive and negative reports exist on the possibility of transferring acquired behavior from animal to animal by injecting brain extract from a trained donor to an untrained recipient. The possibility of transferring morphine tolerance from rats to mice, as reported by Ungar and Galvan, was investigated. Eighteen unsuccessful experiments were carried out over a 3 month period with 125 donor rats and 383 recipient and saline control mice. A blind test was done on the mice using control and trained donor extracts and 100 of the mice were sent to Ungar for testing as recipients concurrently with the local strain. Finally, those mice, from all experiments which had seemed to avoid shock more often than the other after receiving the extracts, were bred, and the offspring were tested as recipients. The results of all experiments were either negative or equivocal. The exhaustive but unsuccessful attempts at replication suggest, at least, that the precise conditions for successful transfer will have to be worked out and defined much more carefully. 15 references.

101352 Glick, S.D.; Zimmerberg, B. Department of Pharmacology, Mount Sinai School of Medicine, New York 10029 Comparative learning impairment and amnesia by scopolamine phencyclidine, and ketamine. *Psychonomic Science*. 25(3):165-166, 1971.

In a study of comparative learning impairment and amnesia, scopolamine, phencyclidine, and ketamine were each administered to mice before or immediately after training of a passive avoidance response. Retention was measured 24 h later. All 3 drugs impaired retention when administered before training. Only scopolamine impaired retention when administered after training. The effect of posttraining administration of scopolamine was found to diminish as the training injection interval increased. 11 references. (Author abstract modified)

101354 Grote, Frederick W., Jr.; Brown, Robert T. Western Washington State College, Bellingham, Washington 98225 Rapid learning of passive avoidance by weanling rats: conditioned taste aversion. *Psychonomic Science*. 25(3):163-164, 1971.

Conditioned taste aversion was studied in an investigation of rapid learning of passive avoidance in weanling rats. The animals were allowed to drink lithium chloride solution, a drug which induces visceral upset, at 22 (conditioning) and 25 (testing) days of age. Intake of lithium chloride in testing was significantly below that in conditioning, indicating that the rats learned not to drink the aversive fluid after one exposure and that weanling rats can rapidly learn to inhibit certain responses. 12 references. (Author abstract modified)

101570 Angel, Charles; Burkett, Mary L. Veterans Administration Center, Biloxi, Mississippi Potentiation in rats of bufotenin-induced behavioral changes by chlorpromazine. *Perceptual and Motor Skills*. 32(3):803-810, 1971.

A dose response relationship for bufotenin in the rat trained to bar press for water reinforcement has been established. The data illustrate that pretreatment of the rat with chlorpromazine potentiates the behavioral effects of bufotenin, while pretreatment with a tricyclic antidepressant drug does not alter the dose response relationship for bufotenin. If a similar interacting effect between chlorpromazine and bufotenin were to be demonstrated for the human, it would suggest evidence that bufotenin is not an endogenous psychotogen involved as an etiologic factor in schizophrenia. Such a parallel relationship is suggested by earlier work of Turner and Merlis (1959). 25 references. (Author abstract modified)

101578 Grumpelt, Howard R.; Maddex, Barbara E.; Nebus, Esther J.; Rattner, Judith C. Bureau of

**Research in Neurology and Psychiatry, Princeton, New Jersey** Effects of diazepam and meclizine hydrochloride on emotional upset due to perceptual dissonance and motion. *Perceptual and Motor Skills*. 32(3):753-754, 1971.

Predictions that intersense perceptual dissonance was one of the factors responsible for emotional upset associated with motion were confirmed in a study with 180 rats. Drug type was one variable (10mg/kg diazepam, 0.4mg/kg meclizine hydrochloride or saline solution, all orally administered 90 min prior to testing) and motion - dissonance condition was the second. Measures of ambulation and defecation were used to assess emotional upset. Results showed that anticipated interactions between drugs and motion-dissonance procedure were absent. 7 references.

**101718 Segal, David S.; Sullivan, John L., III; Kuczenski, Ronald T.; Mandell, Arnold J. Dept. of Psychiatry, Univ. of California, San Diego, La Jolla, Calif. 92037** Effects of long-term reserpine treatment on brain tyrosine hydroxylase and behavioral activity. *Science*. 173(3999):847-849, 1971.

Treatment of rats with reserpine (for 8 or 9 days) produced a temporally related increase in behavioral activity and in tyrosine hydroxylase activity in the midbrain. Weight loss resulting from such treatment was not sufficient, by itself, to account for either the behavioral or enzymatic changes. The results support the role of catecholamines in behavioral arousal. 14 references. (Author abstract)

**101738 Lee, C.T.; Brake, S.C. Dept. of Psychology, Brooklyn College, The City University of New York, Brooklyn, N.Y. 11210** Reactions of male fighters to male and female mice, untreated or deodorized. *Psychonomic Science*. 24(5):209-211, 1971.

Four experiments were performed to investigate the male mouse fighter's reaction toward mature male and female mice. The first 2 experiments showed that normal DBA and blind SJL fighters were able to make differential reactions; they were more aggressive toward males than females. Thus, it was hypothesized that olfactory cues were responsible for this differential reaction. Experiment 3 partly substantiated the hypothesis by showing that a deodorant (Man-power) reduced DBA fighters' reaction to males, while another deodorant (Pristeen) did not alter the fighters'

behavior. Experiment 4 showed that fighters were more aggressive toward sham operated males than toward castrated males, thus suggesting that male hormone, androgen, might produce pheromone to evoke the aggressive tendency in fighters. 6 references. (Author abstract modified)

**101740 Bigelow, George; Thompson, Travis. University of Minnesota, Minneapolis, Minn. 55455** Behavioral effects of morphine and methadone in rhesus monkeys. *Psychonomic Science*. 24(5):215-217, 1971.

Two rhesus monkeys, working on fixed ratio schedules for appetitive reinforcement, were given injections of morphine sulfate and methadone hydrochloride. Morphine was the more potent in decreasing operant responding. Responding was restored sooner following methadone injections than following morphine injections. Response decreasing potency does not correspond to analgesic potency. 11 references. (Author abstract)

**101741 Holloway, Frank A.; Vardiman, Donald R. University of Oklahoma Medical Center, Oklahoma City, Oklahoma 73104** Dose-response effects of ethanol on appetitive behaviors. *Psychonomic Science*. 24(5):218-220, 1971.

A dose - response analysis of systemic injections of ethanol on appetitive behaviors indicated that low doses facilitated responding in food motivated fixed ratio and in differential reinforcement of low rates of responding (DRL) tasks without parallel increases in food consumption or general activity. Higher doses of ethanol produced the expected depression of all behaviors examined. The results are discussed in terms of the possible differential sensitivity of different behavioral processes and/or brain areas to the effects of the drug. 4 references. (Author abstract)

**101748 MacDonnell, M.F.; Fessock, Leonor; Brown, S.H. Center of Alcohol Studies, Rutgers Univ., New Brunswick, N.J.** Ethanol and the neural substrate for affective defense in the cat. *Quarterly Journal of Studies on Alcohol*. 32(2):406-419, 1971.

Electrodes were implanted in the ventromedial nucleus and in the corticomedial or basolateral divisions of the amygdala of 22 adult female, alert, anatomically intact cats; amygdaloid stimulation was used to facilitate the arousal of affective defense. Evoked potentials (the average of 64

potentials in each of 9 stimulus modes), recorded after infusion of 1.5g of ethanol per kg of body weight (20% by weight in saline), as a single and as an increasing ramp dose, showed that a single dose of ethanol produced polyphasic excitability changes including an initial hyperexcitability, a depression, a rebound hyperexcitability and a return to normal. The latency periods between stimulation and hissing were measured in 5 cats as a behavioral expression of affective defense. Significantly shorter latencies were observed after 0.37g of ethanol per kg and when a visual target was present than after 1.5g of ethanol per kg. The possible relevance of rebound hyperexcitability to physical dependence and hangover is briefly discussed. 20 references. (Author abstract modified)

101758 von Wright, J.M.; Pekkanmaki, Leena; Malin, Sinikka. Dept. of Psychology, University of Turku, Finland Effects of conflict and stress on alcohol intake in rats. *Quarterly Journal of Studies on Alcohol*. 32(2):420-433, 1971.

Male albino Swiss-Wistar rats, 3 to 8 months old, were given a choice among tap water, a 10% ethanol solution (v/v) and a food solution isocaloric with the ethanol solution on alternate days during 8 days. On the nontest days they were fasted. On the test days 6 rats received a weak and 11 a strong electric shock each time they pressed a lever for food (conflict group). The 23 rats in the stress groups received a number of weak or strong noncontingent shocks every 55 minutes on test days. Consumption of the ethanol solution increased significantly in 2 of the 6 conflict rats given a weak shock and in 10 of 11 given a strong shock, but the increase was transitory and declined rapidly in most when conflict ceased. In the stress group strong noncontingent shock resulted in little change in ethanol intake during the stress period but increased in 10 of 14 rats for 2 weeks after termination of stress and for 4 weeks in 7 of 8 additional rats subjected to 3 stress periods. Weak stress had no appreciable effect on ethanol intake. 24 references. (Author abstract)

101934 Redmond, D.E., Jr.; Maas, J.W.; Kling, A.; Graham, C.W.; Dekirmenjian, H. Illinois State Psychiatric Institute Chicago, Ill. 60612 Social behavior of monkeys selectively depleted of monoamines. *Science*. 174(4007):428-431, 1971.

The differing effects of selective monoamine depletion on the social interactions of monkeys was studied. Findings showed that initiated social interactions of *Macaca speciosa* are decreased during the period of treatment with alpha-methyl-p-tyrosine, an inhibitor of catecholamine synthesis. The treated animals maintained stable body weights and appeared to be healthy. Similar depletion of indoleamines with p-chlorophenylalanine does not change these same observed behaviors in spite of weight loss, hair loss, ataxia, and debilitation in some of the animals. 27 references. (Author abstract modified)

101966 Giardina, Andrew R.; Fisher, Alan E. Dept. of Psychology, University of Pittsburgh, Pennsylvania 15213 Effect of atropine on drinking induced by carbachol, angiotensin and isoproterenol. *Physiology & Behavior*. 7(4):653-655, 1971.

Studies showed that preinjections into the rat septal area of either atropine sulfate or atropine methyl nitrate produce a virtually complete blockade of carbachol induced drinking but have no effect on drinking induced by angiotensin or isoproterenol. Injections into the lateral septal area of either carbachol, angiotensin II, or DL isoproterenol HCl lead to increased drinking in the rat. Results indicate that angiotensin and isoproterenol induce drinking by a mechanism that may be independent of the cholinergic thirst system. Control data suggests that angiotensin acts centrally but at nonmuscarinic sites to enhance drinking, while isoproterenol probably acts systemically. 11 references. (Author abstract modified)

102094 Russell, Roger W.; Vasquez, Bentriz J.; Overstreet, David H.; Dalglis, Frank W. Dept. of Psychobiology, University of California, Irvine, California Consummatory behavior during tolerance to and withdrawal from chronic depression of cholinesterase activity. *Physiology & Behavior*. 7(4):523-528, 1971.

Two experiments were conducted, using rats, to study behavioral tolerance development to chronically lowered levels of cholinesterase (ChE) activity induced by intramuscular injection of diisopropyl fluorophosphate (DFP) and effects on behavior of withdrawal from the treatment. Three parameters of consummatory behavior were measured: food intake, water intake, and laps. Results showed that food intake and laps were affected in

similar manners both during tolerance development and during withdrawal: an initial decrease in performance recovered to pre-DFP baseline levels within the first 7 days of treatment and continued at these levels during the 30 day test period following withdrawal from DFP. By contrast the parameter, water intake, required 13 days for full tolerance to develop and reacted to withdrawal of DFP, first, by some 25 days of drinking at pretreatment baseline levels and, later, by an extended period of suprabaseline performance significantly greater in magnitude than that of control animals. Hypotheses about peripheral and central mechanisms underlying these behavioral effects are discussed in the light of present empirical data. 22 references. (Author abstract)

**102095 Warburton, David M.; Segal, David S.** Dept. of Psychology, Reading University, Reading, England Stimulus control during chronic reduction of cholinesterase activity. *Physiology & Behavior*. 7(4):539-543, 1971.

Inhibition of cholinesterase activity to below 40% of normal by the anticholinesterase diisopropylfluorophosphate (DFP) produced deficits in motor function and response inhibition. Chronic administration of DFP resulted in the development of tolerance of motor function. However, measures of single alternation acquisition after this time showed that this behavior was still disrupted suggesting that tolerance of response inhibition had not occurred. The magnitude of disruption depended on the experimental conditions with punishment of intertrial responding attenuating the deficit. This finding implied that the amount of disruption was a function of the precision of the stimulus control over the behavior. 14 references. (Author abstract)

**102096 Gawienowski, Anthony M.; Hodgen, Gary D.** Dept. of Biochemistry, University of Massachusetts, Amherst, Massachusetts 01002 Homosexual activity in male rats after p-chlorophenylalanine: effects of hypophysectomy and testosterone. *Physiology & Behavior*. 7(4):551-555, 1971.

Using immature Fisher rats, we found that only males which had been androgen primed displayed male - male copulatory behavior as a result of p-chlorophenylalanine plus Pargyline treatment. Hypophysectomy of mature Sprague-Dawley males prevented any manifestation of sexual excitation using a similar treatment regimen. We

have confirmed p-chlorophenylalanine and Pargyline induced homosexual excitation in both mature, intact Fisher and Sprague-Dawley male rats. The data suggest that p-chlorophenylalanine plus Pargyline induced homosexual excitation is dependent upon an intact pituitary in the adult male rat and, in addition, testosterone in the immature male rat. 12 references. (Author abstract)

**102097 Bignami, Giorgio; Amorico, Luigi; Frontali, Marina; Rosic, Nedeljko.** Dept. of Therapeutic Chemistry, Istituto Superiore de Sanita, Rome, Italy Central cholinergic blockade and two-way avoidance acquisition: the role of response disinhibition. *Physiology & Behavior*. 7(4):461-470, 1971.

The effects of scopolamine hydrobromide on a 2 way avoidance learning by rats were studied in various experimental conditions, selected so as to vary the extent to which response suppressing tendencies interfere with active avoidance acquisition. Previous experiments had repeatedly shown an avoidance facilitation by central antimuscarinics in the following conditions: discrete trial 2 way test with nondirectional light as CS, 5 sec CS-US intervals, 1.5mA shocks, 30 sec intertrial intervals (ITI's), intertrial responses (ITR's) punished, absence of partition or barrier in the shuttle box, and 6 separate 50 trial sessions at about 24 hr intervals. In the series of tests described, the control performance was markedly enhanced, and the scopolamine facilitation correspondingly attenuated. The drug effect was reversed in the direction of retardation of learning when ITI's of 70 sec or more were used, and when all training, with 30 sec ITI's, was given in a single 300 trial session. Two experiments with different shock intensities did not give reliable evidence of a drug X intensity interaction. These results support the hypothesis that response disinhibition after central cholinergic blockade can account for most, if not all, the data on antimuscarinics and active avoidance acquisition. 89 references. (Author abstract modified)

**102186 Menge, H.G.; Brand, U.** Pharmakologische Abteilung, Chemische Fabrik Promonta GmbH, BRD-2000 Hamburg 26, Hammer Landstrasse 162-178, Germany /The influence of neuroleptic and thymoleptic drugs on stereotypes induced by amphetamine and apomorphine./ Untersuchungen über die Stereotypen nach Amphetamin und Apomorphin sowie deren pharmakologische

Beeinflussung. *Psychopharmacologia (Berlin)*. 21(3):212-228, 1971.

The behavior of mice after various doses of amphetamine or apomorphine which induce stereotypies is described in detail. The induced stereotyped behavior in mice appears more differentiated than that in rats. The amphetamine syndrome in rats consists of an excitement phase followed by the stereotypy, whereas apomorphine elicits stereotyped behavior directly after administration. Amphetamine induced stereotyped behavior is different from the apomorphine induced stereotypy in several respects. Neuroleptics inhibit the amphetamine (12.5mg/kg sc) and apomorphine (10 mg/kg sc) syndrome, while thymoleptics potentiate subeffective doses of amphetamine (5 mg/kg sc) and apomorphine (2 mg/kg sc). This is demonstrated with some neuroleptics of the pethothiazine type, haloperidol, reserpine, and a group of thymoleptics. The method opens the possibility of differentiating within several groups of neuroleptics and within several groups of thymoleptics. 39 references. (Author abstract)

102188 Bhagat, B.; Bayer, Tim; Lind, Charles. Department of Physiology, St. Louis University School of Medicine, 1402 So. Grand Blvd., St. Louis, Mo. 63104 Effects of chronic administration of nicotine on drug-induced hypnosis in mice. *Psychopharmacologia (Berlin)*. 21(3):287-293, 1971.

Chronic administration of nicotine in mice for 6 weeks did not affect the duration of hypnosis induced by pentobarbital, hexobarbital, barbital or zoxazolamine. The onset of barbital hypnosis remained unaffected. These results suggest that chronic administration of nicotine did not affect the drug metabolizing activity of hepatic microsomes. While psychotropic drugs significantly potentiated the hypnosis due to pentobarbital and hexobarbital, the degree of potentiation was the same in both chronically nicotine pretreated mice and controls. Nicotine pretreatment significantly increased the duration of sleeping time caused by ethanol alone. However, when treatment of nicotine continued for a longer period of time, the duration of hypnosis induced by ethanol returned to control level. 14 references. (Author abstract)

102189 Dalrymple, S.D.; Stretch, R. London Psychiatric Hospital, London, Canada Effects of amphetamine and chlorpromazine on second-order

escape behavior in squirrel monkeys. *Psychopharmacologia (Berlin)*. 21(3):268-282, 1971.

Three squirrel monkeys received extensive training under a concurrent free operant avoidance, fixed ratio escape schedule. The independent effects of D-amphetamine and chlorpromazine were assessed over a range of dose levels. The effects of D-amphetamine (0.03, 0.1, 0.3, and 1.0mg/kg) on each monkey were dependent upon the subjects' control rates of responding. However, there was a depressant effect on high response rates. Administration of chlorpromazine characteristically was followed by an overall depression of response rates. Dose combinations of 0.3mg/kg chlorpromazine with D-amphetamine (0.1, 0.3, 1.0mg/kg) illustrated the antagonistic effects of the 2 drugs. At the lowest amphetamine dosage, the chlorpromazine effect was unimpaired; at the 0.3mg/kg dosage of each drug it was abolished. The rate suppressive effect on high response rates of 1.0mg/kg D-amphetamine was abolished when given together with 0.3mg/kg chlorpromazine. The experiment demonstrates the phenomenon of amphetamine-chlorpromazine antagonism under conditions in which responding was maintained by the scheduled presentation of aversive stimulation. 13 references. (Author abstract)

102190 Wray, Samuel R.; Cowan, Alan. Department of Pharmacology, Pharmaceutical Division, Reckitt and Colman, Hull, East Yorkshire, England The behavioural effects of levallorphan, cyprenorphine (M 285) and amphetamine on repeated Y-maze performance in rats. *Psychopharmacologia (Berlin)*. 21(3):257-267, 1971.

The effect of levallorphan and cyprenorphine (M 285) were studied on repeated Y-maze performance in rats. It was postulated that these narcotic antagonists (implicated as psychotomimetics) would disrupt the experiencing process and augment fear motivated behavior. These compounds produced differential effects on behavior. Levallorphan induced bizarre excitation and disrupted habituation; cyprenorphine was ineffective in these respects. No augmentation of fear motivated behavior was observed. Amphetamine increased locomotor activity without affecting habituation. 42 references. (Author abstract)

102195 Cappell, Howard; LeBlanc, A.E. Addiction Research Foundation, 33 Russell Street, Toronto, Ontario, Canada Some factors controlling

oral morphine intake in rats. *Psychopharmacologia (Berlin)*. 21(3):192-201, 1971.

Rats were given the opportunity to drink morphine solution following stabilization at 3 levels of passive premedication. Compared to saline treated controls, premedicated rats consumed more morphine solution, but medication level did not significantly affect morphine intake. Premedicated rats adjusted to a reduction in morphine solution concentration by increasing fluid intake substantially, but nonpremedicated rats did not. When morphine was offered in a vehicle of isotonic saline oral consumption rose sharply in premedicated rats but not in their nonpremedicated counterparts. Drinker and non-drinker rats were identified on the basis of initial response to oral morphine. Premedication eliminated resistance to morphine drinking, but even at the expense of severe fluid deprivation, nonpremedicated nondrinkers refused morphine throughout the entire experiment. 7 references. (Author abstract)

102196 Meltzer, Donald; Fox, Paul A. Department of Psychology, Southern Illinois University, Carbondale, Ill. 62901 Increases in spontaneous activity following intermittent imipramine administration. *Psychopharmacologia (Berlin)*. 21(3):187-191, 1971.

Increases in spontaneous activity following intermittent imipramine administration were studied in 20 male albino Holtzman rats. Subjects received 20mg/kg of imipramine intraperitoneally every third day until they had received a total of 4 injections. There was a decrease in spontaneous activity shortly after drug administration, but the drugged rats had activity levels which were significantly higher than those of subjects in a control group one day after injection. 10 references. (Author abstract modified)

102243 Brown, Hugh. St. Paul's College, Department of Psychology, University of Manitoba, Winnipeg 19, Manitoba, Canada Some anticholinergic-like behavioural effects of trans(-)-delta-8-tetrahydrocannabinol. *Psychopharmacologia (Berlin)*. 21(3):294-301, 1971.

Mice were intraperitoneally dosed with trans(-)-delta-8-tetrahydrocannabinol, various anticholinergic agents, hallucinogenics, or other behaviorally active drugs immediately prior to a habituating experience. The anticholinergic agents and trans(-)-delta-8-tetrahydrocannabinol inhibited the sub-

sequent influence of the habituating experience relative to the other drugs and to solvent treated subjects. The habituation modifying effects of these drugs were antagonized by tacrine, but not by d-amphetamine. The results suggest that the behavioral effects of tetrahydrocannabinols might involve an anticholinergic mechanism. 38 references. (Author abstract)

102305 Palfai, T.; Chillag, D. Department of Psychology, Syracuse University, Syracuse, N.Y. 13210 Time-dependent memory deficits produced by pentylene-tetrazol (Metrazol) -- the effect of reinforcement magnitude. *Physiology & Behavior*. 7(3):439-442, 1971.

An investigation was made to determine whether or not pentylene-tetrazol (Metrazol) induced seizures impair retention of a single passive avoidance trial in the mouse in a time dependent fashion. A single 50mg/kg (i.p.) injection of Metrazol produced retrograde amnesia (RA) for a passive avoidance trial in the mouse. Contrary to an earlier report, the Metrazol effect dependent on the time interval between training and injection; significant performance impairments occurred when the injection was given up to 20 min but not 60 min following training. In a second experiment, it was found that the degree to which Metrazol resulted in RA depended on the reinforcement magnitude in the learning trial. 24 references. (Author abstract modified)

102390 Bennett, Thomas L.; Nunn, Patricia J.; Inman, Dean P. Colorado State Univ., Fort Collins, Colorado Effects of scopolamine on hippocampal theta and correlated discrimination performance. *Physiology & Behavior*. 7(3):451-454, 1971.

The effect of scopolamine hydrobromide on performance of the Adey discrimination task was examined. Adey and his associates postulated that theta reflects the active involvement of the hippocampus in the processing, storage and recall of information. The theory implies that if the appearance of theta is experimentally blocked, then behavior based on the recall of previously stored information will be adversely affected. This implication was examined. Theta blocking was accomplished by intraperitoneal administration of different dosages of scopolamine hydrobromide, and the effects of such theta blocking on performance of a previously mastered Adey type discrimination task were assessed. Analysis of the results in-

licated that all doses of scopolamine suppressed hippocampal theta; however only the 2 highest doses of scopolamine resulted in a decrement of discrimination task performance. Under these stronger dosages, performances still remained at a high level indicating that discrimination capacities were not severely disrupted. The findings are interpreted as being inconsistent with Adey's interpretation of the significance of the hippocampal theta rhythm. 7 references. (Author abstract modified)

**102540** Seligman, M.E.P.; Mineka, Susan; Fillit, Howard. Department of Psychology, University of Pennsylvania, 3815 Walnut Street, Philadelphia, Pennsylvania 19104 Conditioned drinking produced by procaine, NaCl, and angiotensin. *Journal of Comparative & Physiological Psychology*. 77(1):110-121, 1971.

Conditioned drinking in the rat was demonstrated using 3 techniques. Increasing concentrations of subcutaneous NaCl injections increased unconditioned drinking (UR) systematically but did not increase conditioned drinking (CR); increasing concentrations of procaine-HCl injections systematically increased both unconditioned and conditioned drinking, and dissociation of UR and CR in classical conditioning was therefore demonstrated. Conditioned drinking was also produced by procaine and NaCl procaine delivered through a chronically implanted perforated tube under the back. In addition, conditioning of drinking was produced using injections of angiotensin to the hypothalamus. Unlike procaine conditioned drinking which does not extinguish, angiotensin conditioned drinking extinguished rapidly. Procaine may act like a poison and the conditioned drinking it produces may serve to avoid illness, while conditioning produced by angiotensin may be more like the conditioning of natural thirst. 23 references. (Journal abstract)

**102549** Anisman, Hymie; Waller, T.Gary. Department of Psychology, University of Waterloo, Waterloo, Ontario, Canada Effects of methamphetamine and shock duration during inescapable shock exposure on subsequent active and passive avoidance. *Journal of Comparative & Physiological Psychology*. 77(1):143-151, 1971.

Some effects of methamphetamine and shock duration during inescapable shock exposure on subsequent active and passive avoidance were in-

vestigated. In Experiment 1, Wistar rats received 10 signaled shock presentations of 0.0, .3, .5, 2.0, or 6.0sec duration following injections of either methamphetamine or saline. Results indicated that the facilitative effects of prior shock exposure (PSE) on subsequent one way avoidance learning were augmented by methamphetamine injection in the 2.0 and 6.0sec shock groups. In addition, Experiments 1 and 2 revealed that movement during PSE and subsequent avoidance performance were highly correlated. Experiment 3 indicated that while PSE facilitated subsequent passive avoidance learning, methamphetamine administered during either PSE or passive avoidance testing reduced the facilitative effects. Results were taken to indicate that response repertoire changes during PSE influence subsequent one way and passive avoidance performance. 24 references. (Author abstract modified)

**102824** Gauron, Eugene F.; Rowley, Vinton N. College of Medicine, University of Iowa, Iowa City, Iowa Effects of chronic trifluoperazine administration in multiple dosages on rat offspring behavior. *Psychological Reports*. 29(2):497-498, 1971.

A learning deficit was demonstrated on 48 albino rat offspring of females chronically drugged in infancy with trifluoperazine. Duration of administration to the parent animal was not a critical factor in the offsprings' learning. The hypothesis that offspring of highest dosage level females would display a more significant deficit was not confirmed. 3 references. (Journal abstract)

**102868** Crow, Lowell T.; Story, Randall J.; Engels, David T. Western Washington State College, Bellingham, Wash. Effect of pitressin on voluntary alcohol consumption in the rat. *Psychological Reports*. 28(3):950, 1971.

Eighteen experimentally naive male albino rats of the Holtzman strain were maintained on an alternate day presentation schedule in which 1 of 3 ethanol concentrations (6, 12, or 24% by volume) was the sole liquid available. The effects upon this voluntary alcohol intake of intraperitoneal injections of vasopressin synthetic or pitressin tannate in amounts of 1, 2.5 or 5 units were observed in comparison with saline injected controls. Each animal was exposed to every alcohol concentration, balancing for sequence effects, the pitressin injections being given immediately prior to the 24 hr alcohol ingestion period. Twelve of the animals were given only vasopressin synthetic

and the remaining 6 were given only pitressin tannate. Dosages were kept constant within a given concentration sequence. The results showed no significant differences in amount of alcohol consumed as a function of any of the drug conditions imposed. The results of an increase in consumption of dilute alcohol concentrations found after lesions of the median eminence which destroy the synthesis sites of antidiuretic hormone do not appear to have a simple corollary in the case of apparent superfluity of posterior pituitary principles. 2 references.

**102883 Watanabe, Hiroshi.** Department of Chemical Pharmacology, Faculty of Pharmaceutical Sciences, University of Tokyo, Bunkyo-ku, Tokyo, Japan The development of tolerance to and of physical dependence on morphine following intraventricular injection in the rat. *Japanese Journal of Pharmacology (Kyoto)*. 21(3):383-391, 1971.

Intraventricular injection of morphine hydrochloride in the doses from 5 micrograms upwards produced analgesia, hyperthermia, inhibition of spontaneous movements, autonomic excitation, and reduction of brain norepinephrine in the rat. When the administration was repeated 3 times a day for 9 days, the development of tolerance to morphine analgesia was observed and the decrease of brain norepinephrine was disappeared. Levallorphan tartrate induced abstinence symptoms after repeated intraventricular injections of morphine. In the preliminary experiment intraventricular pretreatment of either dopamine or norepinephrine ameliorated the the abstinence symptoms induced by levallorphan. It may be suggested that brain norepinephrine has an important role to recover the antagonist induced abstinence symptoms in animals after chronic administration of morphine. 27 references. (Author abstract)

**102884 Gupta, B.D.; Dandiya, P.C.; Gupta, M.L.** Department of Physiology and Pharmacology, S.M.S. Medical College, Jaipur, India A psychopharmacological analysis of behaviour in rats. *Japanese Journal of Pharmacology (Kyoto)*. 21(3):293-298, 1971.

In order to find a suitable explanation for the differential behavioral effects of the pharmacologically similar drugs, several components of the open field performance of rats have been examined under the influence of varying doses of CNS acting drugs. The results have shown that facilitation of ambulation with a simultaneous in-

hibition of the interrupting responses of rearing and preening is a typical function of increasing doses of mescaline. On the other hand, facilitation of ambulation and defecation with a simultaneous blocking of preening is a function of pentylenetetrazol. However, methylphenidate or caffeine augment ambulation and rearing at the cost of preening in contrast to pargyline which inhibits preening without affecting the other responses. It is suggested that the open field performance of rats can be used for differentiating cortical stimulant drugs from the antidepressant drugs. 10 references. (Author abstract)

**102885 Kaneto, Hiroshi; Nakanishi, Hitoshi.** Department of Pharmacology, Faculty of Pharmaceutical Sciences, Nagasaki University, Nagasaki, Japan A simple quantitative method for the evaluation of physical dependence liability of morphine in mice. *Japanese Journal of Pharmacology (Kyoto)*. 21(3):411-413, 1971.

The jumping activity of mice and loss of body weight were used to quantitate the degree of abstinence and thus the extent of physical dependence resulting from the continuous infusion of morphine. It was shown that a short-term infusion of morphine could develop tolerance and physical dependence. The possibility of evaluating other drugs by this method is noted. 5 references.

**103040 Ibuka, Nobuo.** Department of Psychology, Tokyo University of Education, Otsuka, Bunkyo-ku, Tokyo, Japan The differential effects of methamphetamine upon visual exploratory behavior and spontaneous motor activity in rhesus monkeys (*Macaca mulatta*). *Japanese Psychological Research (Tokyo)*. 13(1):26-33, 1971.

The differential effects of methamphetamine (2mg/kg, i.m.) upon visual exploratory behavior and spontaneous motor activity were studied with rhesus monkeys. The frequency and cumulative time of the approach response to the visual stimulus (either a flickering light or a peer monkey) were recorded as an index of visual exploratory behavior and spontaneous motor activity was also measured in terms of photobeam breaks by the S's spontaneous movements. It was found that methamphetamine significantly inhibited the approach response to the visual stimulus, but spontaneous motor activity obtained concurrently with visual exploratory behavior was elevated in some monkeys but depressed in other monkeys. The results were discussed in relation to Berlyne's

arousal hypothesis. 28 references. (Journal abstract)

**103461** Russell, Roger W.; Warburton, David M.; Vasquez, Beatriz J.; Overstreet, David H.; Dalglish, Frank W. University of California, Irvine, California 92664 Acquisition of new responses by rats during chronic depression of acetylcholinesterase activity. *Journal of Comparative and Physiological Psychology*. 77(2):228-233, 1971.

The acquisition of 4 behaviors in animals was studied at various times during the chronic lowering of acetylcholinesterase (AChE) activity by diisopropyl fluorophosphate (DFP) to approximately 27% of normal. The behavioral patterns examined were spatial, discrete trial appetitive, discrete trial escape, and passive avoidance responses. Impairments in some measures of acquisition were found at 24 hr. following a single injection, but not at 240 or 528 hr. during chronic treatment (injections every third day). Decrements following acute administration occurred regardless of the reinforcement contingency involved, suggesting that the major effect was on performance in general. This interpretation is supported by the fact that all impairments disappeared by 10 days, the period of time which earlier experiments had shown to be required for the recovery of motor systems. These changes can be ascribed to the peripheral, rather than central, effects of the drug. 17 references. (Journal abstract)

**103647** Feldstein, Aaron; Kurcharski, Joseph M. Worcester Foundation for Experimental Biology, Shrewsbury, Mass. 01545 Pyrazole and ethanol potentiation of tryptophol-induced sleep in mice. *Life Sciences*. 10(17):961-967, 1971.

The effect of ethanol on tryptophol induced sleep in mice is examined. It is noted that both ethanol and pyrazole markedly potentiate tryptophol induced sleep in mice. It is suggested that endogenous tryptophols and/or their corresponding aldehydes may play a role in physiological and drug induced sleep. Suggestions for future research are made. 32 references. (Author abstract modified)

**103652** Wiley, R.G.; Dilts, S.L.; Berry, C.A. Department of Pharmacology, Medical School, Northwestern University, Chicago, Illinois 60611 Modification of conflict behavior by prior experience: effects of scheduling and pentobarbital.

*Archives internationales de Pharmacodynamie et de Therapie (Gent)*. 192(2):231-237, 1971.

In an evaluation of the modification of conflict behavior by prior experience, the effects of scheduling and pentobarbital in the rat are investigated. Lever pressing by rats for food rewards is temporarily disrupted by pairing mild paw shocks (MPS) with the food rewards. Prior aversive stimulation (PAS) with strong paw shocks predisposes rats to press levers less frequently than naive animals during MPS sessions. Administration of moderate doses of pentobarbital prior to PAS did not attenuate the influence of PAS on subsequent MPS behavior. However, administration of grossly depressant doses of sodium pentobarbital prior to PAS did reduce the influence of PAS on subsequent MPS behavior. Varying the time between PAS and MPS or the length of experimental sessions did not significantly alter the behavior of animals during MPS trials. Thus, PAS influence on subsequent behavior is relatively insensitive to non-specific CNS depression, and, within the limits examined, does not depend on session length or days between PAS and MPS. 9 references. (Journal abstract modified)

**103944** Evangelista, A.M.; Izquierdo, I. Dept. de Farmacologia, Instituto de Ciencias Químicas, Estafeta 32, Cordoba, Argentina The effect of pre- and post-trial amphetamine injections on avoidance responses of rats. *Psychopharmacologia (Berlin)*. 20(1):42-47, 1971.

The effects of amphetamine injections on the avoidance response in rats were studied. Rats were trained in a shuttle box to avoid shocks, and then retested 5 days later for retention. A pretrial injection of 2mg/kg amphetamine increased the performance of conditioned responses (CRs) on the first day, but it did not improve retention beyond control levels. A similar posttrial injection, on the other hand, caused a marked enhancement of retention, even in rats which had received a pretrial amphetamine treatment. Atropine potentiated the effect of pretrial amphetamine on performance during the first day session, but it partly antagonized that of posttrial amphetamine on retention. Amphetamine was considered to have a dual effect on behavior: an enhancing effect on pseudoconditioning, which could be potentiated by atropine; stimulant action on memory consolidation, which was counteracted by atropine. Under the conditions of the

experiment, it was to be expected that the effect of pretrial amphetamine on the performance of avoidance responses on the first day would be due to an increase of pseudoconditioned responses, and therefore would not improve retention of CRs over control levels. A higher dose (5mg/kg) of amphetamine lacked all facilitatory action on learning. The effects of atropine by itself were dose dependent on pretrial injection (a low dose depressed, a higher dose enhanced performance on both sessions), and was stimulant upon retention upon posttrial treatment. 15 references. (Author abstract modified)

**103945** Ott, Tilmann; Matthies, Hansjürgen. Institut für Pharmakologie und Toxikologie der Medizinischen Akademie Magdeburg, DDR-301 Magdeburg, Leipziger Str.44, Germany /The influence of orotic acid on the retrograde amnesia caused by ECS./ Die Wirkung von Orotsäure auf die durch elektrokonvulsiven Schock ausgelöste retrograde Amnesie. *Psychopharmacologia (Berlin)*. 20(1):16-21, 1971.

The influence of the RNA precursor orotic acid on the retrograde amnesia caused by ECS was investigated in rats using an optical discrimination test. ECS, given 2 hours or less after training, led to significant retrograde amnesia in control animals if tested 24 hours later. The same effect was found in animals treated with a single dose of 100mg/kg orotic acid i.p., given 10 min before training. Contrary to these findings, no amnesia could be produced in rats pretreated with a daily dose of 100mg/kg orotic acid i.p. over 4 days. The prolongation of extinction, typical after orotic acid treatment, was also seen in these animals. An explanation of these findings may be that repeated administration of orotic acid leads to an improved consolidation of memory, possibly via some changes in the central nucleotide and/or RNA metabolism. 11 references. (Author abstract)

**103946** Matthies, H.; Fahse, Christa; Lietz, W. Institut für Pharmakologie und Toxikologie der Medizinischen Akademie Magdeburg, DDR-301 Magdeburg, Leipziger Str.44, Germany /The effect of RNA-Precursors on the maintenance of long-term memory./ Die Wirkung von RNS-Präkursoren auf die Erhaltung des Langzeitgedächtnisses. *Psychopharmacologia (Berlin)*. 20(1):10-15, 1971.

A study of the effect of an RNA precursor (orotic acid) on maintenance of long-term memory is presented. Fourteen days before and 10 days

during the training of optic discrimination, rats received 100mg/kg orotic acid daily intraperitoneally. Whereas in the control animals memory retention decreased in the first days after training, no extinction was seen in the treated animals over a period of 200 days. After that, retention decreased at the same rate as in the control animals. From the results it was concluded that 2 different stages of long-term memory can be distinguished: the preservation and true extinction. The true extinction seems to have a constant rate of decline. The theoretical interpretation and the importance of the individual slopes of the extinction curves are discussed. 7 references. (Author abstract modified)

**103947** Johnson, David N.; Funderburk, William H.; Ward, John W. A.H. Robins Research Laboratories, 1211 Sherwood Ave., Richmond, Va. 23220 Effects of fenfluramine on sleep-wakefulness in cats. *Psychopharmacologia (Berlin)*. 20(1):1-9, 1971.

The effects of fenfluramine on sleep - wakefulness in cats were studied. Five cats were prepared with chronically implanted electrodes for recording sleep - wakefulness patterns. Four of these animals received fenfluramine at each of 3 dose levels and data recorded for the following 12 hours. Percent of time in paradoxical sleep was significantly reduced by 2.5 and 7.5mg/kg, but not by 0.5mg/kg, of fenfluramine. The higher doses also increased slow wave sleep and, at 7.5mg/kg (an anorexigenic dose), total sleep time was significantly increased. Under similar conditions amphetamine, at an anorexigenic dose of 1mg/kg, significantly suppressed both paradoxical sleep and slow-wave sleep in 3 cats. Rebound of paradoxical sleep after suppression induced by 2.5mg/kg of fenfluramine was not seen in either of 2 cats studied when sleep patterns were recorded for 48 hours. After 7.5mg/kg of the drug, however, rebound was seen on days 3 and 4 after suppression of paradoxical sleep which lasted for over 26 hours. In 2 animals, daily administration of 2.5mg/kg of fenfluramine for 16 consecutive days, followed by saline administration for 3 days, indicated that tolerance was developing to the suppression of paradoxical sleep produced by the drug. 18 references. (Author abstract modified)

**103949** Russell, Roger W.; Vasquez, Beatriz J.; Overstreet, David H.; Dalglis, Frank W. Office of

Academic Affairs, Univ. of California, Irvine, Calif. 92664 Effects of cholinolytic agents on behavior following development of tolerance to low cholinesterase activity. *Psychopharmacologia (Berlin)*. 20(1):32-41, 1971.

The development of tolerance during periods of chronically low levels of cholinesterase (ChE) induced by administration of diisopropyl fluorophosphate (DFP) is evidenced in systematic changes in behavioral variables. An experiment was designed to study the biochemical mechanism(s) involved by challenging tolerant and control subjects with pharmacological agents known to affect the cholinergic system: the cholinolytics, atropine and methylatropine. Measures of the free operant behavior showed tolerance to have developed by the ninth injection of DFP, after which the challenge series began. Clear differences were apparent between the effects of the cholinolytic agents on the tolerant and control groups. Dose response curves for both groups showed similar trends of decreasing performance with increasing dose level until a critical point was reached. With further increases in dose, there was a complete absence of responding in the majority of tolerant subjects, while control animals continued to perform at about 40% normal. The fact that effects of the methylatropine challenge were not significantly different in tolerant and control subjects implies that the biochemical process(es) of tolerance had a major central component. 24 references. (Author abstract)

103951 Jaffe, Peter G.; Baum, Morrie. Dept. of Psychology, Bishop's Univ., Lennoxville, Quebec, Canada Increased resistance-to-extinction of an avoidance response in rats following the administration of hashish resin. *Psychopharmacologia (Berlin)*. 20(1):97-102, 1971.

The effect of administration of hashish resin on an avoidance response in rats was studied. Thirty rats were trained to avoid shock in an automated apparatus and were given extinction trials with the shocker disconnected. Ss were divided into 3 groups prior to extinction and given an intraperitoneal injection of either 1 or 2 doses of hashish resin or the vehicle used to dissolve it. Both doses of hashish resin were found to significantly increase the number of trials required to reach the extinction criterion as compared to the placebo group. The higher of the 2 doses also induced a significant increase in spontaneous

recovery responding one day later. The results were compared to a similar finding obtained with alcohol. 7 references. (Author abstract modified)

103952 Valzelli, L.; Bernasconi, S. Istituto di Ricerche Farmacologiche 'Mario Negri,' Via Eritrea 62, I-20157 Milan, Italy Differential activity of some psychotropic drugs as a function of emotional level in animals. *Psychopharmacologia (Berlin)*. 20(1):91-96, 1971.

The activity of various psychotropic drugs was tested on the abnormal behavior induced by prolonged isolation in both mice and in rats. It is suggested that the different effects shown by the drugs on the various behavioral profiles of the 2 species considered are dependent on the emotional level of the experimental animals. 29 references. (Author abstract)

103953 Schrold, J.; Squires, R.F. Dept. of Pharmacology, A/S Ferrosan, Sydmarken 5, DK-2860 Soeborg, Denmark Behavioural effects of d-amphetamine in young chicks treated with p-Cl-phenylalanine. *Psychopharmacologia (Berlin)*. 20(1):85-90, 1971.

The action of d-amphetamine on the behavior of young chicks treated with p-Cl-phenylalanine was investigated. It was noted that d-amphetamine administered to 5 day old chicks provoked wing droop, postural change and twittering. However, p-Cl-phenylalanine methyl ester (H 69/17), which lowered the content of 5-HT and 5-HIAA in the brain to about 30% of control values in chicks of the same age, induced no marked behavioral changes. Pretreatment with H 69/17 protected against the effects of d-amphetamine. Simultaneously d-amphetamine induced marked excitation with aggressive behavioral components. It is concluded that: the predominant actions of d-amphetamine in newly hatched chicks are mediated via a serotonergic (tryptaminergic) mechanism, which masks the excitatory effects of the drug in this animal species; and there are great similarities, between the behavioral changes seen after d-amphetamine in 5-HT depleted chicks and imipramine in normal chicks. 21 references. (Author abstract modified)

103954 Dallemagne, Ghislaine. Laboratoire de Pharmacodynamie, Inst. de Therapeutique experimentale, Univ. de Liege, B-4000 Liege, Belgium /Prolonged treatment with morphine in rats: drug/behavior interaction under aversive control./

**Traitement prolonge a la morphine chez le rat: interaction drogue/comportement dans des conditionnements sous controle aversif.** *Psychopharmacologia (Berlin)*. 20(1):77-84, 1971.

The prolonged treatment of rats with morphine was studied. Four rats were conditioned alternately on a titration schedule and on a Sidman avoidance schedule, without warning stimulus, in a circular box. Morphine (15mg/kg daily) was administered for 30 consecutive days, and again for 4 days after 22 sessions of conditioning without drugs. In a circular box, the excitation induced by morphine showed a slow daily decrease suggesting development of tolerance. In the titration schedule, responding was depressed by the drug. After a few days, the rate of responding increased and the depression was reversed to excitation. When the drug was withdrawn, the rats showed a pattern of behavior close to the normal baseline. The same effects appeared when morphine was injected after 6 weeks interruption of treatment. 7 references. (Author abstract modified)

**104074 Vitulli, William F.** University of South Alabama, Mobile, Alabama Effects of insulin preparations on titrated sucrose regulation. *Psychological Reports*. 29(3):779-783, 1971.

Albino rats were conditioned on a titration schedule of reinforcement which enabled the animals to adjust the sucrose concentration of food pellets. Concentrations of 90%, 70%, 50%, 30% and 10% sucrose were decreased by 20% every 30 sec. unless the animal emitted 1 of 2 concurrent operants, which reversed the process. Preparations of globin, protamine, and regular insulins were administered via the intraperitoneal route in small doses, on separate sessions, when steady states on the titration schedule were observed. Regular insulin had the strongest effect in producing higher titration and pellet rates and greater sucrose consumption. 4 references. (Journal abstract)

**104136 Clark, George; Koester, Anna G.; Person, David W.** Dept. of Anatomy, Medical University of South Carolina, 80 Barre St., Charleston, S.C. 29401 Exploratory behavior in chronic disulfoton poisoning in mice. *Psychopharmacologia (Berlin)*. 20(2):169-171, 1971.

A study to evaluate possible changes in exploratory behavior from chronic disulfoton poisoning in mice was conducted. The behavior of 4 groups of white mice was compared using the

hole board test. One male and 1 female group were chronically poisoned with disulfoton while similar untreated male and female groups served as controls. The scores of the poisoned animals were significantly higher than those of the controls, indicating that the poisoned animals exhibited increased exploratory behavior. There were no sex differences. 5 references. (Author abstract modified)

**104137 Irwin, Samuel; Kinohi, Roberta; Van Sloten, Margaret; Workman, Mary P.** Dept. of Psychiatry, Univ. of Oregon Medical School, Portland, Oregon 97201 Drug effects on distress-evoked behavior in mice: methodology and drug class comparisons. *Psychopharmacologia (Berlin)*. 20(2):172-185, 1971.

Methodologic studies were undertaken to establish the optimal conditions of continuous foot shock stimulation for investigating drug effects on distress evoked behavior. The drugs subsequently studied under these conditions (imipramine, methamphetamine, methadone, perphenazine, pentobarbital, ethyl alcohol and chlordiazepoxide) could be distinguished and classified from the profiles of action obtained. Greatest overall reduction of the distress evoked behaviors in diminishing order were produced by perphenazine, methadone, ethyl alcohol and chlordiazepoxide. Methadone most selectively reduced leaping responses; perphenazine most selectively prolonged recovery time latencies. None of the agents reduced fighting at doses that did not also modify the modes of responding. 11 references. (Author abstract)

**104138 Henriksson, Bengt G.; Jarbe, Torbjorn.** Dept. of Psychology, Univ. of Uppsala, Slottsgrand 3, S-75220, Uppsala, Sweden Effects of diazepam on conditioned avoidance learning in rats and its transfer to normal state conditions. *Psychopharmacologia (Berlin)*. 20(2):186-190, 1971.

A study to determine whether diazepam dissociates the learning of conditioned avoidance responding (CAR) in rats was made. Rats trained in conditioned avoidance responding after injections of diazepam, 10mg/kg, showed little or no transfer when tested in the nondrugged state. In this moderate dose diazepam did not significantly facilitate the acquisition of CAR nor did it decrease already established avoidance behavior. 10 references. (Author abstract modified)

104142 Sanghvi, Indravadan; Urquilaga, Xavier; Gershon, Samuel. Dept. of Psychiatry, New York University Medical School, 550 First Avenue, New York, N.Y. 10016 Exploration of the anti-depressant potential of L-DOPA. *Psychopharmacologia (Berlin)*. 20(2):118-127, 1971.

In view of conflicting reports on the use of L-DOPA, an investigation of its potential usefulness as an antidepressant in an animal test model was made. A potential antidepressant should potentiate the behavioral and cardiovascular effects of yohimbine, a naturally occurring indole alkaloid, in conscious dogs. Further investigated were the interactions of L-DOPA with antagonists and drugs that potentiate its effects. Mongrel dogs were prepared aseptically by placing an indwelling cannula in the femoral artery for recording arterial pressure. Experiments were started 1 week post operatively. Each dog was its own control. The effects of L-DOPA (30mg/kg) and yohimbine (0.5mg/kg) were recorded individually and in combination. L-DOPA produced sedative effects, whereas yohimbine produced stimulatory effects. L-DOPA failed to potentiate yohimbine effects. Ro 4-4602 (50mg/kg), a decarboxylase inhibitor markedly inhibited the effects of L-DOPA. It was concluded that this dose of Ro 4-4602, probably also inhibited central decarboxylase. Haloperidol (0.1-0.2mg/kg), a dopamine antagonist, completely prevented the behavioral and cardiovascular effects of L-DOPA. Following imipramine (1.5mg/kg) pretreatment, L-DOPA failed to produce any behavioral effects. However, imipramine, when administered 10-15 min after L-DOPA, markedly increased behavioral effects but reduced the cardiovascular and emetic effects. The results of the present study are consistent with a review of the literature, finding L-DOPA not to be an antidepressant in man, but inducing, rather, motor mobilization. 30 references. (Author abstract modified)

104144 Dellni-Stula, A. Biological Research Laboratories, Pharmaceutical Div. of Ciba-Geigy Limited, Basel, Switzerland Drug-induced suppression of conditioned hyperthermic and conditioned avoidance behavior response in rats. *Psychopharmacologia (Berlin)*. 20(2):153-159, 1971.

The influence of different drugs on conditioned avoidance behavior and hyperthermia induced by the conditioning situation in rats was investigated. A specific blocking of conditioned avoidance responses was observed with neuroleptic drugs,

but, except for chlorpromazine and thioridazine, they did not affect the conditioned temperature rise. Benzodiazepine derivatives and meprobamate consistently suppressed the hyperthermia at doses which did not impair conditioned avoidance behavior. Among other psychoactive drugs only imipramine (10mg/kg i.p.) and desipramine (5mg/kg i.p.) have shown an inhibitory effect on hyperthermia. The conditioned behavioral response was not influenced. Phentolamine at higher doses slightly suppressed the temperature rise. Morphine and aspirin were inactive regarding both parameters tested. 18 references. (Author abstract)

104145 Giurgea, C.; Lefevre, D.; Lescrenier, C.; David-Remacle, M. Division Pharmaceutique, U.C.B., Rue Berkendael 68, B-1060, Brussels, Belgium Pharmacological protection against hypoxia induced amnesia in rats. *Psychopharmacologia (Berlin)*. 20(2):160-168, 1971.

A study to determine whether hypoxia is a true amnesic agent, interfering with long-term memory consolidation, and secondly, whether this amnesia can be counteracted by a pharmacological agent was made. In an operant conditioning situation a visual stimulus, presented about 40 times per trial, was used in a control group of Wistar rats, to learn to avoid an electric shock. In a second group, oxyprive anoxia was used daily at the end of each trial, (immediate hypoxia) as an amnesic agent. In a third group, similar daily hypoxia treatment was used but applied 6-7 hours after the trial (delayed hypoxia). Finally, in immediate hypoxic conditions 3 groups of rats were treated with Piracetam (UCB 6215) at respectively 10, 100 and 500mg/kg given orally, daily, 30 min before each trial. The results obtained showed that: 1) immediate hypoxia strongly impaired learning in untreated rats; 2) delayed hypoxia did not interfere with learning, thus supporting the interpretation of the effect of immediate hypoxia on learning as an amnesic one; 3) rats treated with Piracetam (UCB 6215) at 100 and 500mg/kg, were completely protected against immediate hypoxia, as judged by their learning performance. The protective memory consolidation effect of Piracetam (UCB 6215) is discussed based on the neuropharmacology of this new compound. 23 references. (Author abstract modified)

104171 Ahlenius, Sven; Engel, Jorgen. Department of Pharmacology, University of Goteborg, Goteborg, Sweden Behavioral effects of haloperidol

after tyrosine hydroxylase inhibition. *European Journal of Pharmacology (An International Journal) (Amsterdam)*. 15(2):187-192, 1971.

The effect of haloperidol after pretreatment with H 44/68 (the methylester-hydrochloride of DL-alpha-methyl-p-tyrosine), a tyrosine hydroxylase inhibitor, on food reinforced operant behavior (fixed ratio 40:1) was investigated in rats. Intraperitoneal injections of haloperidol in doses that had no effect per se, resulted in a marked depression of the behavior studied when given after a subthreshold dose of H 44/68. The effects are indicative of potentiation and are discussed in terms of a feedback mechanism connecting the presynaptic and postsynaptic neurons. 18 references. (Author abstract modified)

104173 Gauron, Eugene F.; Rowley, Vinton N. College of Medicine, University of Iowa, Iowa Cross-generational effects resulting from an early maternal chronic drug experience. *European Journal of Pharmacology (An International Journal) (Amsterdam)*. 15(2):171-175, 1971.

A study is presented which reconfirms and extends the finding that a chronic drug experience in the infancy of albino rats does affect the learning ability of undrugged subsequent generations. Progeny of descendants of chronic drug females were tested at 75 days of age. Drugs administered chronically to the parent animals were chlorpromazine, trifluoperazine and prochlorperazine. Second generation offspring were inferior learners on avoidance conditioning, but not on the Hebb-Williams food maze. Third generation offspring were also inferior learners on avoidance conditioning. The general pattern of the findings has been for the drug groups to become more homogeneous with respect to learning ability and more clearly delineated from the saline control group. At the present time, the data do not permit separation from among potential alternative explanations for the findings: changes in maternal behavior toward the offspring, genetic mutations, and biochemical changes. 4 references. (Author abstract modified)

104174 Johnson, David N.; Funderburk, William H.; Ward, John W. A.H. Robins Research Laboratories, Richmond, Va. 23220 Comparative effects of ten anorectic drugs on sleep-wakefulness patterns in cats. *European Journal of Pharmacology (An International Journal) (Amsterdam)*. 15(2):176-179, 1971.

Sleep patterns in chronically prepared cats were determined after administration of approximately equal anorectic doses of each of 10 substituted phenethylamine appetite suppressant drugs. These included: aminorex, d-amphetamine, l-amphetamine, benzphetamine, chlorphentermine, diethylpropion, fenfluramine, methylphenidate, phenmetrazine, and phentermine. Compared to saline, each agent significantly suppressed the incidence of paradoxical sleep while it increased the latency of this phenomenon during the 12 hr after drug administration. Percent time in slow wave sleep, however, was significantly increased by one drug (fenfluramine), unaffected by another (chlorphentermine), and suppressed by the others. These data support the hypothesis that it is possible to separate anorectic properties from central nervous system stimulation by appropriate substitutions on the phenyl ring. 22 references. (Author abstract modified)

104325 Dilts, S.L.; Wiley, R.G.; Berry, C.A. Children's Hospital, Denver, Colorado Modification of conflict behavior by prior experience: effects of training and morphine. *Archives internationales de Pharmacodynamie et de Therapie (Gent)*. 192(1):160-167, 1971.

Rats were trained to press levers for food pellets on a continuous reinforcement schedule. Those animals with a previous history of exposure to strong paw shocks (PAS) showed more profound and prolonged decreases in lever pressing when mild paw shocks (MPS) were coupled to each lever press along with the food rewards than did animals not receiving PAS. Also, animals given 22 days of operant training pressed levers more frequently during MPS trials than rats receiving 12 days of training. Animals receiving morphine prior to PAS showed less disruption during MPS trials than did saline injected animals. Thus, increasing the amount of approach (operant) training or attenuating the aversive nature of PAS with the analgesic, morphine, decreases the disruption observed during the conflict (MPS) trials. This paradigm allows indirect observation of some central drug effects in drug-free animals. 8 references. (Author abstract)

104373 Orsingher, Otto A.; Fulginiti, Susana. Instituto de Ciencias, Estafeta 32, Universidad Nacional de Cordoba, Argentina Effects of alpha-methyl tyrosine and adrenergic blocking agents on the facilitating action of amphetamine and nicotine

on learning in rats. *Psychopharmacologia (Berlin)*. 19(3):231-240, 1971.

DL-amphetamine sulphate (2mg/kg) and nicotine (0.2mg/kg) showed a facilitatory action on the acquisition of a conditioned response in a shuttle box by rats and this was reversed by pretreatment with alpha-methyl tyrosine (alpha-MT) (30mg/kg). Pretreatment with dibenamine (10mg/kg) impaired the action either of amphetamine or nicotine. Nethalide (5-10mg/kg) exerted a partial protection on the depressant effect produced by the interaction between dibenamine and nicotine. Animals treated with alpha-MT (30mg/kg) and kept in the cold also showed a depressed learning capacity. DL-Dopa (200mg/kg) provided a partial protection on the depressive effects caused by the interaction of alpha-MT with amphetamine, nicotine or cold. It is suggested that the facilitatory learning action of amphetamine and nicotine involves a common adrenergic mechanism. The depressant effects of amphetamine, nicotine or cold after alpha-MT treatment are attributed to depletion of 'functional pools' of catecholamines. 33 references. (Journal abstract modified)

104374 Fog, R.; Randrup, A.; Pakkenberg, H. St.Hans Hospital, Psychopharmacological Laboratory, DK-4000 Riskilde, Denmark Intrastriatal injection of quaternary butyrophenones and oxyperline: neuroleptic effect in rats. *Psychopharmacologia (Berlin)*. 19(3):224-230, 1971.

Bilateral intrastriatal microinjections in rat brains of quaternary neuroleptic drugs of the butyrophenone type (haloperidol, benperidol, floropipamide) and the indole type (oxypertine) antagonize amphetamine induced stereotyped behavior, with the development of catalepsy. These 2 behavioral effects are also typical for neuroleptics given subcutaneously. No effect was observed when placebo was injected intrastrially or when quaternary haloperidol was injected into the thalamus or hippocampus. The neuroleptic effect may be exerted through dopaminergic mechanisms in the corpus striatum. 14 references. (Journal abstract modified)

104377 Peeke, Harman V.S.; LeBoeuf, Burney J.; Herz, Michael J. Department of Psychiatry, University of California, San Francisco, California 94122 The effect of strychnine administration during development on adult maze learning in the rat II: drug administration from day 51 to 70. *Psychopharmacologia (Berlin)*. 19(3):262-265, 1971.

Strychnine sulphate administered to rats during development from day 51 to day 70 affected the rate of maze learning in adulthood. Rats given the drug in a rich environment learned the maze at a faster rate and with fewer errors than rats treated with the same drug but raised in small laboratory cages. The performance of rats given no drug was intermediate to that of the drug rich and drug caged groups. 5 references. (Journal abstract)

104429 Bilkova, J.; Radil-Weiss, T.; Bohdanecky, Z. Laboratory of Psychophysiology, Institute of Physiology, Czechoslovak Academy of Sciences, Prague 4, Czechoslovakia The influence of low LSD dose administration during sleep in rats. *Psychopharmacologia (Berlin)*. 20(4):395-399, 1971.

The influence of lysergic acid diethylamide (LSD) upon sleep cycle alternation and upon the duration and electroencephalographic characteristics of paradoxical sleep was studied in rats. LSD (subcutaneous infusion of .125mg/kg of body weight in 1 ml during 60 min) administered during sleep in rats with implanted electrodes increases the frequency of hippocampal theta activity during paradoxical sleep. Neither the duration of slow wave and paradoxical sleep phases nor the total amount of slow wave and paradoxical sleep was influenced by the drug. 15 references. (Author abstract modified)

104430 Senault, B. Dept.de Pharmacologie, Laboratoire Le Brun, 41 bis, Bd.Anatole-France, F-93 Aubervilliers, France /Influence of isolation on the aggressive behavior induced by apomorphine in the rat./ Influence de l'isolement sur le comportement d'agressivité intraspecificue induit par l'apomorphine chez le rat. *Psychopharmacologia (Berlin)*. 20(4):389-394, 1971.

The apomorphine induced aggression response of isolated rats was examined. The development of aggressive behavior in adult rats was enhanced after isolation in cages with wire netting and especially in cages isolated in opacified Makrolon boxes compared with aggregated rats. Young rats kept isolated for 2 months immediately after weaning showed an enhancement only if isolated in wire netting cages. Rats kept in groups for 1 month after their isolation still showed an enhancement of aggression, although it was somewhat reduced. 18 references. (Author abstract)

104431 Ahlenius, Sven; Eriksson, H.; Larsson, K.; Modigh, K.; Sodersten, P. Dept.of Pharmacology,

Univ. of Goteborg, Fack, S-40033 Goteborg, Sweden  
**Mating behavior in the male rat treated with p-chlorophenylalanine methyl ester alone and in combination with pargyline.** *Psychopharmacologia (Berlin)*. 20(4):383-388, 1971.

The methyl-ester-hydrochloride of p-chlorophenylalanine alone (50 or 150mg/kg i.p.) and in combination (4 x 100mg/kg i.p.) with pargyline (100mg/kg i.p.) caused a shortening of the ejaculation latencies in male rats and in increase in the number of intromissions per minute. No changes were observed in other components of the sexual behavior including intromission latency, postejaculatory interval and the number of mounts and intromissions preceding ejaculation. 6 references. (Author abstract)

**104432 Fibiger, Hans C.; Lynch, Gary S.; Cooper, Helen P.** Div. of Neurological Sciences, Dept. of Psychiatry, Univ. of British Columbia, Vancouver 8, B.C., Canada A biphasic action of central cholinergic stimulation on behavioral arousal in the rat. *Psychopharmacologia (Berlin)*. 20(4):366-382, 1971.

The effect of the cholinomimetic, pilocarpine, on behavioral arousal as measured by locomotor activity was investigated in the rat. Pilocarpine first produced a period of behavioral inhibition, the intensity and duration of which was dose related. After the inhibitory phase, a period of marked psychomotor excitation was observed. Pretreatment with scopolamine prevented both the inhibitory and excitatory effects of pilocarpine. Scopolamine administered at the onset of the rebound hyperactive period, however, significantly potentiated this excitatory phase. The anticholinesterase, physostigmine, also had a biphasic effect on behavioral arousal. The results are interpreted as indicating induction of central adrenergic activity in response to central cholinergic stimulation. 28 references. (Author abstract)

**104433 Geller, I.; Hartmann, R.; Blum, K.** Dept. of Experimental Pharmacology, Southwest Foundation for Research and Education, P.O. Box 28147, San Antonio, Tex. 78228 Effects of nicotine, nicotine monomethiodide, lobeline, chlordiazepoxide, meprobamate and caffeine on a discrimination task in laboratory rats. *Psychopharmacologia (Berlin)*. 20(4):355-365, 1971.

An investigation was designed to determine the effects on discrimination behavior produced by:

- 1) nicotine, lobeline and nicotine

monomethiodide, the quaternary salt of nicotine which does not penetrate the blood-brain barrier; 2) chlordiazepoxide and meprobamate, 2 minor tranquilizers; and 3) caffeine, a cerebral stimulant. Hungry rats were trained on a discrimination task in order to obtain food rewards. During each experimental session, discrete stimuli of 1 min duration were delivered through a small speaker in the experimental chamber at random intervals on the average of once every 2 min. Lever responses in the presence of a light and tone were correct and produced food rewards. Lever responses in the presence of the light stimulus were incorrect and were punished by total inactivation of the experimental chamber. Rats were selected for this experiment based on their inability to acquire the discrimination task even after 6 months of training. Administration of nicotine, lobeline, chlordiazepoxide and meprobamate produced an improvement in discrimination performance through a reduction of responses to incorrect stimuli. Caffeine and nicotine monomethiodide were without effect on the discrimination. 14 references. (Author abstract modified)

**104436 Stolerman, I.P.; Kumar R.; Steinberg, Hannah.** Dept. of Pharmacology, Albert Einstein College of Medicine, 1300 Morris Park Ave., Bronx, N.Y. 10461 Development of morphine dependence in rats: lack of effect of previous ingestion of other drugs. *Psychopharmacologia (Berlin)*. 20(4):321-336, 1971.

The development of dependence on morphine in groups of rats previously given solutions of different drugs for prolonged periods was examined. For the first 46 days of the experiment, solutions of alcohol, amylobarbitone, chlordiazepoxide, cocaine or dexamphetamine were made available to different groups of rats. Most of these drugs were ingested in substantial doses, had clear effects on behavior and produced characteristic patterns of drinking over the repeated trials. However, there was no unequivocal evidence of dependence, and indeed the rats learned to reject the solutions of dexamphetamine. Ingestion of these drugs did not affect the eventual development of dependence when solutions of morphine were substituted at a later stage, although the avoidance of dexamphetamine seemed to temporarily transfer to morphine. Further studies using other methods and species are needed before inferences can be made about 'escalation' to dependence on opioids in man. 41 references. (Author abstract modified)

104457 Scouten, Charles W.; Beatty, William W. North Dakota State University, Fargo, North Dakota Adrenocortical function and sex differences in acquisition and extinction of active avoidance behavior in the rat. *Psychological Reports*. 29(3):1011-1018, 1971.

Dexamethasone was injected into male and female rats in an attempt to determine whether sex differences in the acquisition and extinction of active avoidance behavior were related to differences in ACTH or glucocorticoids. The results suggest that neither ACTH nor the glucocorticoids are involved in sex typical acquisition or extinction performance, but interpretation of the drug effects on avoidance behavior is complicated by the marked weight loss produced by dexamethasone treatment. This weight loss is apparent within 4 hr. after injection and cannot be prevented satisfactorily by force feeding. 17 references. (Journal abstract)

104462 Essman, Walter B.; Essman, Shirley G. Queens College of the City University of New York, New York Cholinergic mechanisms and avoidance behavior acquisition: effects of nicotine in mice. *Psychological Reports*. 29(3):987-993, 1971.

Mice treated with nicotine sulfate showed, as compared with saline treated controls, a decreased incidence of active avoidance conditioning without effects upon either passive avoidance acquisition or escape behavior. The effect of nicotine was to reduce significantly the ratio of bound: free acetylcholine in the cerebral cortex. This change was accounted for by a decreased content of stored amine, particularly in the synaptic vesicles, without any change in the turnover of the 'free' storage pool. A difference in the ratio of brain acetylcholine storage pools accounting for different modes of avoidance is suggested. 19 references. (Journal abstract)

104539 Breese, G.R.; Howard, J.L.; Leahy, J.P. Child Development Institute, University of North Carolina, School of Medicine, Chapel Hill, North Carolina Effect of 6-hydroxydopamine on electrical self stimulation of the brain. *British Journal of Pharmacology (London)*. 43(1):255-257, 1971.

In rats, after a single intracisternal injection of 6-hydroxydopamine (6-OHDA) electrical self-stimulation was reduced by approximately 50%. The concentrations of noradrenaline and dopamine in the brain were reduced by 83%. A second injection of 6-OHDA reduced the concentration of these amines to 7% of control values

and virtually eliminated self-stimulation. 15 references. (Author abstract)

104573 Leonard, B.E.; Stonier, P.D. Pharmacology Department, I.C.I. Ltd, Pharmaceuticals Division, Alderley Park, Nr. Macclesfield, Cheshire, England The effect of some hallucinogenic and other drugs on the temperature of reserpinized mice. *Psychopharmacologia (Berlin)*. 22(2):126-132, 1971.

Seven hallucinogenic and 9 centrally acting non-hallucinogenic drugs were studied for their calorogenic effects on reserpine pretreated mice. With the exception of 'Ditran' and mescaline, all the hallucinogens had a significant calorogenic effect. Of the other drugs studied, methylamphetamine and amphetamine, dimethoxyphenylethylamine, desmethylinipramine, amitriptyline and chlorpromazine also had a marked calorogenic action. Both alpha-methyl-m-tyrosine, and its active metabolite metaraminol, had a significant calorogenic action in reserpinized mice even though they did not significantly affect the body temperature of otherwise untreated animals. The calorogenic effect of alpha-methyl-m-tyrosine was significantly antagonized by phenylcyclidine, ketamine, LSD and mescaline; the other hallucinogens (harmine, 'Ditran' and p-bromomethylamphetamine) were without effect. Of the other drugs tested, only propranolol, desmethylinipramine and amitriptyline significantly antagonized the calorogenic effect of alpha-methyl-m-tyrosine in reserpinized mice. The possible mechanism of action of the drugs studied is tentatively discussed. 14 references. (Author abstract)

104576 Lowe, G. Department of Psychology, The University, Hull, HU67RX, England The effects of atropine on habituation in a light reinforcement situation. *Psychopharmacologia (Berlin)*. 22(2):172-180, 1971.

The effects of atropine on habituation in a response contingent, light reinforcement situation are examined. Three drug sessions were interspersed with 3 non drug sessions, and it was hypothesized that there would be: (1) no between sessions drop-off in response rate; (2) no carry-over effect on response rate from drug to nondrug sessions; and (3) conjointly, no carry-over effect from nondrug to drug sessions. The atropine (experimental) group showed no drop-off in responding either within drug sessions or between

drug sessions, although response rates were markedly lower than those of the saline control group (significant drop-off both within and between sessions). The total amount of response contingent light obtained throughout the 6 days of the experiment was almost exactly the same for both atropine and saline animals. The results are discussed in relation to recent theoretical explanations of the habituation process and its control by cholinergic mechanisms. 11 references. (Author abstract)

**104577 Merlo, Alicia B.; Izquierdo, Juan A.** Catedra de Farmacologia Experimental, Facultad de Farmacia y Bioquímica, Junin 956, Buenos Aires, Argentina Effect of post-trial injection of beta adrenergic blocking agents on a conditioned reflex in rats. *Psychopharmacologia (Berlin)*. 22(2):181-186, 1971.

The effect of beta adrenergic blocking agents (propranolol, pronethalol, INPEA and dichloroisoproterenol) on the acquisition of a conditioned reflex was studied in adult, male Wistar rats. The experiments were done in a shuttle box with light as a conditioned stimulus, and an electric shock to the legs through the grid as the unconditioned stimulus. A maximum of 23 sessions were carried out with 24 h intervals. The drugs, the peripheral effects of which are estimated to last less than 24 h, were injected i.p. posttrial. The learning process and the number of animals which succeeded in complying with the learning criterion until session 23 were improved by propranolol (2mg/kg) and pronethalol (10mg/kg). INPEA (10mg/kg) only increased the percentage of animals which succeeded in complying the learning criterion until session 12. In the initial sessions dichloroisoproterenol (10mg/kg) impaired the learning process. 18 references. (Author abstract)

**104578 Masur, Jandira; Martz, Regina M.W.; Bieniek, D.; Korte, F.** Escola Paulista de Medicina, Rua Botucatu 862, San Paulo, Brazil Influence of (-)delta(g)-trans-tetrahydrocannabinol and mescaline on the behavior of rats submitted to food competition situations. *Psychopharmacologia (Berlin)*. 22(2):187-194, 1971.

The effects of (-)delta(9)-trans-tetrahydrocannabinol (delta(9)-THC) on rat interaction were studied using 2 different food competition situations. With one of the methods the drug increased winning behavior while with the other an opposite result was obtained. Mescaline increased winning

behavior although it has been previously reported as able to inhibit dominance in rats. These data suggest that methodology is an important variable when the effects of drugs on rat interaction are being studied. The results obtained with delta(9)-THC are tentatively explained in terms of a drug induced distortion in perception. 16 references. (Author abstract)

**104579 Lipper, Steven; Kornetsky, Conan.** Division of Psychiatry, Boston University School of Medicine, Boston, Massachusetts Effect of chlorpromazine on conditioned avoidance as a function of CS-US interval length. *Psychopharmacologia (Berlin)*. 22(2):144-150, 1971.

In a study of the effect of chlorpromazine on conditioned avoidance, 3 groups of 4 rats learned to avoid electric shock (US) by turning a wheel in response to a buzzer stimulus (CS). The CS-US intervals for each group were 5, 10 and 20 sec, respectively. After each animal had learned the avoidance procedure and had achieved a stable level of performance, the effect of several doses of chlorpromazine on percent avoidance, on latency time from CS onset to termination by a response, and on response rate was determined as a function of CS-US interval length. No consistent relationship between increasing interval length and response rate was observed. Neither lengthening the CS-US interval nor the interaction of this lengthening with chlorpromazine dose was found to exert a statistically significant effect on percent avoidance. Although a statistically significant increase in response latency was found to be associated with increasing CS-US interval length, the increases in latency noted were not of sufficient magnitude to corroborate the hypothesis that lengthening the CS-US interval contributes importantly to increased avoidance responding in animals tested with chlorpromazine. Further, the results do not support induction of a locomotor deficit as the mechanism by which chlorpromazine suppresses the avoidance response. 4 references. (Author abstract modified)

**104786 Wada, Juhn A.; Matsuda, Michihiko.** Kinmen Laboratory of Neurological Research, Faculty of Medicine, University of British Columbia, Vancouver 8, B.C., Canada Learned escape behavior induced by brain electrical stimulation and various neuroactive agents. *Experimental Neurology*. 32(3):357-365, 1971.

Cats that learned to interrupt the delivery of electrical stimulation of the midbrain by plate pushing (escape performance), with constant latency, were given drugs known to either influence the pattern of brain activity or modify brain levels of neurohumoral agents. Prolongation of performance latency was observed following administration of: atropine; eserine; DL-3, 4-dihydroxyphenylalanine; DL-5-hydroxytryptophan; DL-alpha-methyl-p-tyrosine; reserpine; DL-methionine sulfoximine. Both DL-p-chlorophenylalanine and pyridoxine had no effect. Among the agents used, reserpine, a depletor of both catecholamine and serotonin, produced the most profound effect on this performance. Although both DL-3,4-dihydroxyphenylalanine, a precursor of dopamine, and eserine readily reversed the reserpine induced general behavioral depression, the animals remained incapable of performing the learned task. DL-2-Methyl-p-tyrosine, a tyrosine hydroxylase inhibitor, was the only agent which showed a differential effect depending on the site of the brain stimulation; it selectively interfered with the performance motivated by midbrain but not hypothalamic stimulation. Potentiation of the defensive feature following eserine suggests a possible competitive or alternate underlying mechanism between escape and defensive behavior. Decrease of hypothalamic escape threshold immediately following the episodic running behavior in methionine sulfoximine treated animals suggests that the latter may utilize the neural mechanism involved in the display of escape behavior. 5 references. (Author abstract modified)

**104791** Al-Hachim, G.M. College of Medicine, Pharmacology Dept., Baghdad, Iraq Effect of Aldrin on the condition avoidance response and electroshock seizure threshold of offspring from Aldrin-treated mother. *Psychopharmacologia (Berlin)*. 21(4):370-373, 1971.

A study was done to determine the effect of Aldrin on the condition avoidance response and electroshock seizure threshold of offspring from Aldrin treated mother mice. Pregnant albino mice at the third stage of gestation were given Aldrin (2mg/kg or 4mg/kg body weight) or corn oil (10cm<sup>3</sup>/kg body weight) orally daily for 7 consecutive days. Each member of these 3 groups of animals was caged separately and raised with its offspring. The offspring were weaned when they were 1 month old. The condition avoidance

response technique was used after weaning to test the animals' learning ability. The test continued for 7 consecutive days. On the eighth day, the brain seizure threshold was measured. Body weight was taken during the test for each animal. The data for condition avoidance response indicated that there was no significant difference between the control and treated offspring. The data for brain seizure threshold and body weight, however, indicated that there were significant differences between the control and the treated offspring. 7 references. (Author abstract modified)

**104793** Korf, Jakob; Kulper, Harmanna E. Psychiatric Univ.Clinic, Div.of Biological Psychiatry, Oostersingel 59, Groningen, The Netherlands Induction of bizarre behaviour in rats by p-chloroamphetamine, a serotonin depletor, after repeated drug administration. *Psychopharmacologia (Berlin)*. 21(4):328-337, 1971.

The effects of chronic treatment of rats with p-chloroamphetamine (4CA) on the brain levels of serotonin (5-HT) and on behavior was evaluated. The 4CA, a depletor of rat brain 5-HT, has some amphetamine-like effects, such as hyperthermia and salivation, and after repeated treatment it may provoke bizarre social behavior by external stimuli. The role of dopamine and 5-HT in the bizarre behavior pattern has been discussed. The 5-HT depletion by 4CA after chronic treatment is not complete; the 5-HT resistant to the action of 4CA has a lower rate of turnover than 5-HT in control animals. 26 references. (Author abstract modified)

**104794** Castellano, Claudio. Laboratorio di Psicobiologia e Psicofarmacologia del C.N.R., Via Reno, 1, I-00198 Rome, Italy Effects of some anticholinergic drugs on water maze learned behaviour in mice. *Psychopharmacologia (Berlin)*. 21(4):361-369, 1971.

Four anticholinergic drugs were tested on mice pretrained in a Y water maze, to swim toward the light (L Procedure, corresponding to a learning without errors) and to the dark (D Procedure, corresponding to a type of acquired behavior). Atropine, scopolamine and diltan exerted a disrupting effect on the L Procedure, benactyzine on the D Procedure. The results are discussed considering those obtained using the same technique with lysergic acid diethylamide and chlorpromazine in a previous study. 14 references. (Author abstract)

**104795** Glick, Stanley D. Dept. of Pharmacology, Mount Sinai School of Medicine, 100th St. and Fifth Ave., New York, N.Y. 10029 Facilitation or impairment of learning by d-amphetamine as a function of stimuli. *Psychopharmacologia (Berlin)*. 21(4):353-360, 1971.

Water rewarded spatial discrimination learning was studied in rats injected with either d-amphetamine sulphate or physiological saline 15 min prior to the first of 2 training sessions. The effect of a light which functioned as a reward and/or as a distraction in the testing situation was examined. Amphetamine was found to facilitate learning by enhancing the reward value of light onset and also to impair learning by enhancing the distraction of light onset. The effects of amphetamine were found to interact with the duration of water deprivation preceding the first training session. Factors responsible for the controversy concerning amphetamine's influence on learning were implicated. 15 references. (Author abstract)

**104796** Geller, Anne; Robustelli, Francesco; Jarvik, Murray E. Dept. of Psychiatry, Albert Einstein College of Medicine, New York, N.Y. Cycloheximide induced amnesia: its interaction with detention. *Psychopharmacologia (Berlin)*. 21(4):309-316, 1971.

The interaction between detention and cycloheximide induced amnesia was explored. After training in a passive avoidance task, mice were detained in the safe compartment of the conditioning apparatus. This detention produced an impairment of retention on the retest trial. Detention did not prolong the cycloheximide susceptible phase of memory formation. A summation of the amnesic effects of the 2 treatments occurred only at a time when both were effective alone. Cycloheximide was without effect upon the detention experience itself. 14 references. (Author abstract modified)

**104797** Metcalf, Frederick U., Jr.; Peeler, D.F., Jr.; Andy, O.J. Dept. of Psychology, Box 8185, Univ. of Miami, Coral Gables, Fla. 33124 Methamphetamine effects upon avoidance behavior during limbic seizures in the cat. *Psychopharmacologia (Berlin)*. 21(4):390-400, 1971.

The effects of methamphetamine upon avoidance behavior in the cat during limbic seizures was studied. It was predicted that methamphetamine administered to 9 adult male cats would counteract the debilitating effects of

electrically induced septal after discharges (seizures) upon learned shock avoidance. Performance was assessed in terms of number of avoidance responses and their latencies. Septal after discharges of over 5 seconds duration resulted in the predicted deterioration of avoidance performance. Under the dosage (1.5mg/kg) and conditions employed, methamphetamine appeared to enhance, rather than counteract, this effect. Methamphetamine alone had mixed effects upon avoidance behavior: there was less tendency for animals to 'freeze' in response to the CS, but subjects appeared confused and disoriented. There was a greater likelihood of occurrence of after discharges when methamphetamine was used in conjunction with electrical stimulation of the septum. 33 references. (Author abstract modified)

**104803** Valzelli, L. Istituto di Ricerche Farmacologiche 'Mario Negri', Via Eritrea, 62, I-20157 Milan, Italy Further aspects of the exploratory behaviour in aggressive mice. *Psychopharmacologia (Berlin)*. 19(1):91-94, 1971.

Exploratory behavior in aggressive mice under the influence of different drugs was studied. The drugs used were: LSD-25, Fenfluramine, yohimbine, strychnine, medazepam, oxazepam, and propericiazine. Aggressive mice can be divided in 2 sub groups according to their exploratory activity. The active and the blocked aggressive mice show a different sensitivity to drugs, although they have a similar decrease of brain serotonin turnover rate. 11 references. (Author abstract modified)

**104806** Montgomery, R.B.; Singer, G.; Purcell, A.T.; Narbeth, J.; Bolt, A.G. School of Behavioral Sciences, Macquarie University, North Ryde, N.S.W., Australia The effects of intrahypothalamic injections of desmethylinipramine on food and water intake of the rat. *Psychopharmacologia (Berlin)*. 19(1):81-86, 1971.

The effects on eating and drinking of injections of desmethylinipramine (DMI) into the lateral hypothalamus of the rat were examined under 4 conditions of food and water deprivation (food and water satiated; 16 hr food deprived and water satiated; food satiated and 11 hr water deprived; 16 hr food deprived and 11 hr water deprived). DMI increased eating in animals that were food deprived and water satiated; and increased drinking in animals that were food and water satiated.

No other effects on eating and drinking were observed. The results are discussed in terms of current hypotheses concerning the adrenergic and cholinergic actions of DMI and other tricyclic antidepressants. 18 references. (Author abstract)

**104808** Langfeldt, Thore; Ursin, Holger. Neuropsychological Institute, University of Oslo, 47, Karl Johans Gt., Oslo 1, Norway Differential action of diazepam on flight and defense behavior in the cat. *Psychopharmacologia (Berlin)*. 19(1):61-66, 1971.

The effect of diazepam (1mg/kg bodyweight) on flight and defense behavior was studied in 14 feral cats. Defense behavior is reduced while there is no reduction in the flight behavior at this dosage level. The possible selectivity of this drug for particular limbic structures is discussed. 13 references. (Author abstract)

**104809** Helfetz, Stephen A.; McMillan, D.E. Department of Pharmacology, Downstate Medical Center, State University of New York at Brooklyn, Brooklyn, N.Y. U.S.A. Development of behavioral tolerance to morphine and methadone using the schedule-controlled behavior of the pigeon. *Psychopharmacologia (Berlin)*. 19(1):40-52, 1971.

A multiple fixed ratio, fixed interval schedule of food presentation was used to study the development of behavioral tolerance to daily injections of equipotent doses of morphine and methadone in the pigeon. There was evidence that tolerance was developing to the rate decreasing effects of both drugs after a single injection. Tolerance to morphine developed more rapidly during the first week of injections than did tolerance to methadone. Tolerance to the depressant effects of morphine and methadone was less complete under the fixed ratio component of the schedule than under the fixed interval component. After repeated injections, increases in the rate of responding were observed in some birds. These increases depended on the bird, rather than on the narcotic. Thus, the development of tolerance was a function of the drug, of the individual bird, and of the schedule maintaining the behavior. 17 references. (Author abstract)

**104810** Reinis, Stanislav. Department of Psychology, York University, 4700 Keele St., Downsview, Ontario, Canada Effect of 5-iodouracil and 2,6-diaminopurine on passive avoidance task. *Psychopharmacologia (Berlin)*. 19(1):34-39, 1971.

The effect of 2 antimetabolites, 2,6-diaminopurine and 5-iodouracil on passive avoidance learning was studied in male albino mice. The drugs were injected intracranially 48 h, 24 h or 2 h before and 1 h, 2 h or 24 h after the acquisition trial. The injection of 5-iodouracil 2 h before the acquisition trial or 1 h after it impairs the performance in the same experimental situation of the animals tested 48, 72 h or 1 week after. The same impairment of performance appears after the injection of 2,6-diaminopurine performed 24 and 2 h before or 1 hr after the acquisition trial. The effect of these substances is probably caused by the interference with the metabolism of nucleic acids during learning. 7 references. (Author abstract)

**104812** Castellano, Claudio. Laboratorio di Psicobiologia e Psicofarmacologia, Consiglio Nazionale delle Ricerche, Via Reno, 1, Rome, Italy Lysergic acid diethylamide, amphetamine and chlorpromazine on water maze discrimination in mice. *Psychopharmacologia (Berlin)*. 19(1):16-25, 1971.

The effects of a psychodysleptic (lysergic acid diethylamide), a psychoanaleptic (amphetamine) and a psycholeptic (chlorpromazine) were evaluated in a study of the performance of mice previously trained in a Y water maze, following 2 procedures: Light Procedure, corresponding to a type of innate behavior, and to a 'learning without errors'; and Dark Procedure, corresponding to a type of acquired behavior. The disrupting effect of lysergic acid diethylamide and chlorpromazine was much more marked in the Dark than in the Light Procedure, so that the results can be interpreted as a return to an innate behavior pattern. Lysergic acid diethylamide caused the reappearance of a coming and going pattern of behavior normally observed only during the pretraining sessions. With chlorpromazine a deconditioning effect limited to the Dark Procedure was evident at low doses, while at the highest dose immobilization at the starting point in both procedures was observed. 16 references. (Author abstract)

**104827** Kumar, R. Dept. of Pharmacology, University College, London W.C.1, England Extinction of fear I: effects of amylobarbitone and dex-amphetamine given separately and in combination on fear and exploratory behaviour in rats. *Psychopharmacologia (Berlin)*. 19(2):163-187, 1971.

The effects of amylobarbitone and dexamphetamine on fear and exploratory behavior in rats were examined. Passive avoidance by rats of an environment previously associated with inescapable electric shocks, was taken as an index of the level of fear on repeated, unpunished tests. Locomotor and nonlocomotor exploratory activity was also recorded during these tests. Although amylobarbitone diminished fear it did not accelerate its extinction the amounts of locomotion were increased in both shocked and unshocked rats and tolerance did not develop to these effects of amylobarbitone. Dexamphetamine retarded extinction, with the result that the level of fear remained high even when the drug was withheld. Dexamphetamine also increased locomotor activity. Mixtures of amylobarbitone and dexamphetamine produced greater increases in locomotor activity than did the separate drugs, and their effects on fear were intermediate. In both cases the interactions between the effects of the constituent drugs did not appear to be other than additive. The inhibitory effects of dexamphetamine on the extinction of fear were not modified by adding amylobarbitone. 39 references. (Author abstract modified)

**105012 Stoleran, I.P.** Dept. of Pharmacology, Albert Einstein College of Medicine, 1300 Morris Park Ave., Bronx, N.Y. 10461 Analysis of the acquisition and extinction of food-reinforced behavior in rats after the administration of chlorpromazine. *Psychopharmacologia (Berlin)*. 20(3):266-279, 1971.

The effects of chlorpromazine (2mg/kg) on the acquisition of lever pressing behavior for food rewards were examined in rats. The drug greatly impaired performance during acquisition but, during a subsequent nondrug testing session, performance was only slightly below that of controls trained and tested under saline; giving the drug to control rats before the testing session markedly impaired performance. It was concluded that chlorpromazine acted mainly on factors, such as attention or motor ability, which were important both during and after acquisition, and that it had little action on central learning processes. Dissociation of learning between drugged and non-drugged states did not occur; changes in drug state even increased responding during extinction, but not during continuous reinforcement. Simple depressant effects of chlorpromazine on attention and motor ability do not seem adequate to ac-

count for this, and a further possibility is that the changes in drug state minimized emotional responses elicited by the omission of rewards. 40 references. (Author abstract)

**105013 Voith, Katherine; Herr, F.** Dept. of Pharmacology, Ayerst Research Laboratories, P.O. Box 6115, Montreal, Quebec, Canada The effects of various antidepressant drugs upon the tetrabenazine-suppressed conditioned avoidance response in rats. *Psychopharmacologia (Berlin)*. 20(3):253-265, 1971.

The effects of various antidepressant drugs upon the tetrabenazine suppressed conditioned avoidance response in rats was studied. Rats were trained in a 3 chambered discrimination box to avoid an electric shock which was preceded by the presentation of light. Tetrabenazine, at a subcutaneous dose of 6mg/kg suppressed this conditioned avoidance response (CAR) without abolishing the unconditioned escape response (UER). The 3 classes of antidepressant drugs affected differently the tetrabenazine induced suppression of CAR. The tricyclic antidepressants, imipramine and desmethylimipramine (DMI), did not prevent the suppression of the CAR while the monoamine oxidase inhibitors, iproniazid and pargyline did. The stimulant drugs d-amphetamine and methylphenidate, in addition to preventing also reversed the effect of tetrabenazine. The action of 2 experimental compounds, butriptyline and Lu3-010 was also investigated. The results are discussed in view of a possible relationship between the maintenance of the CAR and the availability of both norepinephrine (NE) and dopamine (DA) in the central nervous system. 31 references. (Author abstract modified)

**105060 Joy, Virginia; Latane, Bibb.** 404-C West 17th Avenue, Columbus, Ohio 43210 Autonomic arousal and affiliation in rats. *Psychonomic Science*. 25(5):299-300, 1971.

The relationship between autonomic arousal and affiliation in rats was explored and differing predictions based on the hypothesis of fear reduction and generalized drive were tested. Pairs of rats were injected with adrenalin, placebo, or chlorpromazine and allowed to interact freely in an open field. Adrenalin injected rats were significantly more sociable than placebo rats, who in turn were more sociable than chlorpromazine rats. On later test trials, all animals received placebo injections. There were no differences among con-

ditions, suggesting no residual effects of drugs or of drug induced experiences in the field. 11 references. (Author abstract modified)

**105075** Quinton, Elton E. University of Louisville, Louisville, Ky. 40208 The cycloheximide-induced amnesia gradient of a passive avoidance task. *Psychonomic Science*. 25(5):295-296, 1971.

Mice were injected with cycloheximide (cyc) or saline 45 min before passive avoidance training. They were tested 1, 1.5, 3, 5, 7, 24, or 72 h after training. A significant drop in the performance of the cyc animals was observed between the 3 h and 5 h test intervals, a result similar to that found in maze studies. However, contrary to the results of maze studies, amnesia was evident as early as 1.5h after training. Several possible explanations for this early appearance of amnesia are discussed, and it is suggested that the retraining procedure used in maze studies may have masked the early stages of amnesia. 9 references. (Author abstract)

**105077** Adams, Perrie M.; Barratt, Ernest S. University of Texas - Medical Branch, Galveston, Tex. 77550 The effects of a marijuana extract on the general motor activity of the squirrel monkey. *Psychonomic Science*. 25(5):279-280, 1971.

The general motor activity of 3 squirrel monkeys was examined under 2 dosage levels of a marihuana extract following delays from time of administration of 30, 45, or 60 min. Results indicated the presence of activating as well as suppressing properties which are dosage and delay dependent. 6 references. (Author abstract modified)

**105078** Solomon, Paul R.; Morse, David L. State University College, New Paltz, N.Y. 12561 The effects of chronic doses of tricyanoaminopropene on water consumption in the rat. *Psychonomic Science*. 25(5):269-270, 1971.

The effects of chronic administration of tricyanoaminopropene (TRIAP) on water consumption in rats were studied. Twenty albino rats of the Wistar strain were assigned to 1 of 4 groups (7, 14, or 28mg/kg TRIAP) or a control group receiving 3% tragacanth. All Ss were given chronic injections of the appropriate drug for a 35 day period. The amount of water consumed was measured over a 3 day period; differences existed between the groups. A dose related tolerance mechanism is discussed. 5 references. (Author abstract modified)

**105079** Siegel, Ronald K.; Jarvik, Murray E. Dept. of Pharmacology, University of California, Los Angeles, Calif. 90024 Evidence for state-dependent learning with mescaline in a passive avoidance task. *Psychonomic Science*. 25(5):260-261, 1971.

A series of experiments was designed to assess the effects of mescaline in a state dependent paradigm with mice. Mice performed a passive avoidance task poorly when trained under mescaline or water and tested 27 h later under the opposite drug conditions. Subjects showed good performance of the learned response and high retest latencies when trained and tested under identical drug conditions. These effects were observed with a 1 hr pretreatment time (excitatory phase) but not with a 30 min pretreatment (inhibitory phase) or with immediate posttrial treatment. Nonshocked control animals receiving identical drug treatments showed no differences in retest latencies. Results are discussed in terms of state dependent learning. 13 references. (Author abstract modified)

**105342** Scotti de Carolis, A.; Ziegler, H.; Del Basso, P.; Longo, V.G. Laboratori di Chimica Terapeutica, Istituto Superiore di Sanita, Rome, Italy Central effects of 6-hydroxydopamine. *Physiology & Behavior*. 7(5):705-708, 1971.

The central effects of 6-hydroxydopamine (6-OHDA) injected intracerebrally in mice and intracisternally in rats were studied. Mice treated with 100 micrograms of the drug were sedated and lethargic, with reduced spontaneous activity, for periods of up to 8 days after injection. For a similar period, the response to amphetamine consisted only of local stereotypes. Forty eight hrs after 6-OHDA, brain norepinephrine was reduced to about 25% of normal levels. No significant differences were observed in the behavioral response to 6-OHDA in animals pretreated with imipramine, desipramine, amitriptyline and amantadine. Desipramine antagonized in part the depleting effects of 6-OHDA. Rats treated with 250-750 micrograms of 6-OHDA showed, in addition to behavioral depression, motor and EEG seizures. Return to normal occurred in 8-10 days. The behavioral changes observed with 6-OHDA are discussed in terms of the depleting effect of the drug on brain catecholamines. 15 references. (Journal abstract modified)

**105346** Blass, Elliott M.; Chapman, Harold W. Department of Psychology, Johns Hopkins University, Baltimore, Maryland 21218 An evaluation of

the contribution of cholinergic mechanism to thirst. *Physiology & Behavior*. 7(5):679-686, 1971.

Evidence is presented which strongly suggests that cholinergic mechanisms are not the exclusive mediators of thirst. Atropine sulfate, delivered systemically, in doses known to eliminate carbachol induced drinking, did not affect or only partially suppressed drinking induced by: (1) water deprivation; (2) systemic or intracranial cellular dehydration; (3) isosmotic intravascular depletion; (4) systemic injections of renin; or, (5) intracranial injection of angiotensin. It had no effect on the prandial drinking of desalivate rats. Furthermore, bilateral intracranial injections of atropine sulfate in the lateral preoptic or lateral hypothalamic areas exerted only a mild inhibition on the drinking caused by systemic injections of renin, and none at all on drinking following systemic cellular dehydration. The partial contribution of cholinergic mechanisms to thirst makes plausible the findings that drinking caused by cholinergic stimulation differs from that following water deprivation. 31 references. (Journal abstract)

105362 Mayse, John F.; DeVietti, Terry L. Department of Psychology, Central Washington State College, Ellensburg, Washington 98926 A comparison of state dependent learning induced by electroconvulsive shock and pentobarbital. *Physiology & Behavior*. 7(5):717-721, 1971.

Two experiments compared the efficacy of electroconvulsive shock (ECS) and ECS preceded by footshock (FS-ECS) to produce state dependent learning relative to pentobarbital (12 and 25mg/kg). In Experiment 1, rats were trained in water T-maze and retrained 72 hr later. Comparison with controls indicated: (1)FS-ECS administered 24 hr prior to training but not retraining (Agent-O order) produced state dependency but did not when animals were trained in the normal state and received FS-ECS 24 hr prior to retraining (O-Agent order) as in most retrograde amnesia experiments; (2) pentobarbital, 12 or 25mg/kg, injected just prior to either training or retraining produced state dependency in the O-Agent order but not the Agent-O order; and (3) ECS alone was not effective in either treatment order. Experiment 2 used reversal training to determine the state dependency in both treatment orders. These data indicate that FS and ECS interact to produce a dissociation effect 24 hr later that is as complete as that produced shortly after

pentobarbital injections. The results of Experiment 2 but not of Experiment 1 support the notion that amnesia observed 24 hr after training trial FS followed 0.5sec later by ECS may be due to a state dependency effect rather than the failure of memory fixation. 12 references. (Journal abstract)

105400 Valzelli, L.; Ghezzi, D.; Bernasconi, S. Istituto di Ricerche Farmacologiche 'Mario Negri,' Milan, Italy Benzodiazepine activity on some aspects of behavior. *Totus Homo (Milano)*. 3(2):73-79, 1971.

The antiaggressive and muscular relaxing activity of benzodiazepines has been studied in both normal and aggressive mice and rats. The antiaggressive efficacy shown by some of these compounds results clearly unrelated with their possible muscular relaxing effect. The different response to benzodiazepines, as to other psychoactive drugs, of isolated aggressive or normal grouped animals, seems to be due to the changes of the biochemical and emotional characteristics of the experimental animals, induced by an alteration of their normal social environment, as reported also for human beings. 61 references. (Journal abstract)

105413 Southgate, P.J.; Mayer, Susan R.; Boxall, Elizabeth; Wilson, A.B. Wyeth Institute of Medical Research, Taplow, Maidenhead, Berks, U.K. Some 5-hydroxytryptamine-like actions of fenfluramine: a comparison with d-amphetamine and diethylpropion. *Journal of Pharmacy and Pharmacology (London)*. 23(8):600-605, 1971.

The 5-hydroxytryptamine (5-HT)-like effects of fenfluramine were investigated in mice in 2 different experiments. In a behavioral test in mice pretreated with tranlycypromine, fenfluramine caused stereotyped changes which were similar to those produced by 5-hydroxytryptophan (5-HTP) and were antagonized by methysergide or pretreatment with p-chlorophenylalanine (PCPA). Like 5-HTP, fenfluramine reduced the conditioned response in a 1 trial conditioning test, an effect antagonized by methysergide or by PCPA pretreatment. The reduction in the conditioned response caused by a maximal electroconvulsion was also antagonized by PCPA, an effect prevented by 5-HTP. Equivalent anorectic doses of d-amphetamine and diethylpropion caused a small increase in stereotyped behavior, but this was not modified by methysergide; both anorectic

drugs were inactive in the 1 trial conditioning test. It seems probable that the observed actions of fenfluramine are caused indirectly through the release of endogenous brain 5-HT. 8 references. (Author abstract)

**105766** Kral, Paul A. Parsons Research Center, Parsons State Hospital, Parsons, Kansas 67357 Effects of scopolamine injection during CS-US interval on conditioning. *Psychological Reports*. 28(3):690, 1971.

Scopolamine was interpolated during the taste-illness interval to determine whether effects on conditioning were similar to electroconvulsive shock (ECS). Twenty male Sprague-Dawley rats were randomly assigned to 4 groups and habituated to a 10 min/day water drinking schedule. On the eighth day of the schedule animals in Group CS-US were allowed to drink novel sweet water (0.1% saccharin) for 10 min. Thirty min. later (CS-US interval) they were made ill with 0.4M LiCl (20ml/kg, ip). This conditioning control was considered an appropriate comparison with which to assess scopolamine induced impairment of avoidance learning the the experimental group. Group CS-ScO.-US (experimental) received identical treatment except that scopolamine hydrobromide (1 mg/kg,ip) was injected 5 min.post-CS. Control Group CS-Only received just the sweet water. Control group CS-ScO.received only the CS-scopolamine pairing to determine if that drug would influence consumption of sweet water independent of the US. On Days 9 and 10 of the schedule all Ss drank tap water as usual. When consumption of sweet water was remeasured on Day 11, all but the CS-Only group evidenced significant avoidance, observed as reduced intake, compared to the initial exposure. These same 3 groups did not, however, differ among themselves. Since both CS-ScO.and CS-US animals avoided sweet water nondifferentially it must be concluded that scopolamine itself acted as an aversive US confounding any effect if ACh depression in the experimental group. 5 references.

**105838** Kazdova, E.; Metysova, J.; Dlabac, A. Research Institute for Pharmacy and Biochemistry, Kourimska 17, Prague 3, Czechoslovakia Pharmacological properties of a new potential neuroleptic drug oxyprothepin: II. Influence on behavior in rats. *Activitas Nervosa Superior (Praha)*. 13(3):186-187, 1971.

The influence of oxyprothepin on the behavior of Wistar rats was studied in 4 situations. In the suppression of fixed conditioned avoidance response in a dosage of 0.3mg/kg, oxyprothepin, octoclotheptin, and perphenazine enhanced the number of incorrect responses, but only the conditioned avoidance response was inhibited. In total activity of the animals, a significant decrease in activity was elicited by administration of 1.0mg/kg of both oxyprothepin and perphenazine 2 hours after their administration. Higher dosages of perphenazine and oxyprothepin caused a significant decrease in activity 0.5 and 2 hours after treatment, respectively. In the open field situation, perphenazine and octoclotheptin were active from 4.0mg/kg, while chlorpromazine was less effective. In the rotating rod test, the motor discoordination caused by oxyprothepin was similar to the action of perphenazine. In general, oxyprothepin possesses a definite central depressant action on rat behavior comparable to perphenazine or octoclotheptin. 3 references.

**105994** Kabes, J.; Fink, Z. Perneroova 1606, Pardubice, Czechoslovakia The influence of anticholinergic hallucinogens on spontaneous and conditioned behaviour in rats. *Activitas Nervosa Superior (Praha)*. 13(3):195-196, 1971.

The effect on simultaneously recorded horizontal and vertical components of spontaneous motor activity in rats was studied using some representative drugs of the piperidylglycolate group. Generally, a stimulatory effect on both spontaneous motor activity components was observed. However, while atropine and JB-336-4 induced only a slight increase in activity, the effects of JB-329 and JB-336 were very intensive, especially in the vertical component. Physostigmine, chlorpromazine, and amobarbital, administered both before and after 5.0mg/kg of JB-336, depressed hyperactivity; physostigmine was the most and chlorpromazine the least effective. In a study of the effect of JB-336 on conditioned behavior in a shuttle box for rats, the drug was found to influence an improved acquisition of the conditioned avoidance response. In the case of conditioned behavior, the participation of passive avoidance tendencies may interfere with the active avoidance response. In both spontaneous behavior and conditioned responses, the question of a relative equilibrium between the central adrenergic and cholinergic systems seems to be significant after drug influence. 5 references.

105996 Borgesova, M.; Kadlecova, O.; Krsiak, M. Institute of Pharmacology CSAV, Albertov 4, Prague 2, Czechoslovakia Behaviour of untreated mice to alcohol- or chlordiazepoxide-treated partners. *Activitas Nervosa Superior (Praha)*. 13(3):206-207, 1971.

Seventy pairs of singly and group housed male mice of the Swiss strain were used to test whether untreated mice would be able to detect the effects of alcohol and chlordiazepoxide in their treated partners. The untreated mice manifested a decreasing number of aggressive acts and an increasing amount of defensive acts towards partners treated with alcohol. Mice treated with chlordiazepoxide induced an increased aggression in the untreated partners, while the number of defensive and escape acts was decreased. Thus, the untreated mice appeared to distinguish between alcohol and chlordiazepoxide effects in their partners. The obtained results suggest that the behavior of untreated animals towards treated partners may sometimes manifest some less marked differences between the effects of psychotropic drugs.

106002 Medek, A.; Hrbek, Jan; Navratil, J.; Komenda, S. Hnevotinska 3, Olomouc 5, Czechoslovakia The effect of chlorprothixene and caffeine on the conditioned alimentary motor reflexes in cats. *Activitas Nervosa Superior (Praha)*. 13(3):210-211, 1971.

Alimentary motor reactions to an acoustical stimulus were trained in 10 cats in experiments with chlorprothixene, caffeine, and their combined administration. Following a single oral dose of chlorprothixene, a statistically significant decrease in the number of positive reactions prolonging latency time and an increase in the number of intersignal reactions were observed. During combined administration of chlorprothixene and caffeine in various doses, the animals manifested considerably less mutual aggression and more moderate spontaneous activity with no impairment of vigilance. Results indicate that general psychomotor performance in firmly fixed alimentary motor reflexes can be moderately improved in cats under conditions of small doses of chlorprothixene and caffeine in a weight ratio of 1 to 2. 4 references.

106070 Eichelman, Burr S., Jr.; Thoa, Nguyen, B.; Ng, K.Y. National Institute of Mental Health, Bethesda, Md. 20014 Facilitated aggression in the rat following 6-hydroxydopamine administration.

(Unpublished paper). Bethesda, Md. NIMH, 1971, 11 p.

Intracisternal injections of 200 micrograms of 6-hydroxydopamine (6-OHDA) produced a marked increase in shock induced fighting in rats and a concomitant decrease in both brain norepinephrine (NE) and dopamine (DA). The behavioral effect was not influenced by pargyline. Desmethylinipramine partially reversed the effect and reduced the depletion of brain NE. No change in jump thresholds or mouse killing behavior were noted in the 6-OHDA treated rats. Alpha-methyl-para-tyrosine and FLA 63, while significantly lowering brain NE and DA in the first case, and brain NE alone, in the second case, did not affect shock induced aggression. The behavioral effect of 6-OHDA was reversed by L-DOPA when it was given with the peripheral decarboxylase inhibitor MK 486, by apomorphine, and transiently by both D and L amphetamine. These results suggest that the 6-OHDA behavioral effect of facilitated aggression involves catecholamine depletion coupled with an alteration of adrenergic terminal structure and function. 25 references. (Author abstract)

106145 Delgado, J.M.R.; Lico, M.C.; Bracchitta, H.; Snyder, D.R. Yale University School of Medicine, 333 Cedar Street, New Haven, Connecticut Brain excitability and behavioral reactivity in monkeys under meprobamate. *Archives Internationales de Pharmacodynamie et de Therapie (Gent)*. 194(1):5-17, 1971.

The effects of meprobamate were investigated in 8 rhesus monkeys and 2 gibbons equipped with permanent intracerebral electrodes and chemitrodes. Administration of 50mg/kg i.m. failed to produce reliable changes in spontaneous electrical activity, brain excitability, or free behavior. Doses of 100mg/kg i.m. produced an increase in the synchronization and amplitude of amygdala activity which also extended to the caudate nucleus without affecting the thalamus or other brain structures studied. Local excitability of the amygdala, thalamus, and central gray was decreased by administration of 100mg/kg i.m., without inducing changes in the caudate nucleus, hypothalamus, or internal capsule. Thresholds for aggressive vocalization evoked by stimulation of the central gray and VPL of the thalamus were increased. Electrical AD thresholds in the amygdala were increased. Conditioned avoidance responses were depressed. Intracerebral

injections into the amygdala of 0.5 microliters/min for as long as 24 hours did not modify local activity or excitability. Results support the thesis proposed by Wittenborn that meprobamate tends to weaken avoidance responses, possibly by interfering with the acquired anticipatory response to pain and other aversive experiences. 33 references. (Author abstract modified)

**106392** Gray, Jeffrey A.; Araujo-Silva, M.T. Department of Experimental Psychology, University of Oxford, South Parks Road, Oxford, England Joint effects of medial septal lesions and amylobarbitone injections on resistance to extinction in the rat. *Psychopharmacologia (Berlin)*. 22(1):8-22, 1971.

The joint effects of medial septal lesions and amylobarbitone injections on resistance to extinction in the rat are reported. A total of 32 male rats, of which half had sustained small electrolytic lesions in the medial septal area and half had received sham operations, were trained on continuous reinforcement to run an alley for water reward and then given 4 days of extinction testing. Half of both the lesioned and sham operated groups were given sodium amylobarbitone on days 1 and 2 of extinction and the other half on days 3 and 4, saline being administered on non-drug days. The drug, unusually, decreased resistance to extinction. This effect was probably due to the subjects having taken part in a previous experiment in which they had received, without drugs, training and extinction under the same conditions as in this experiment. In the goal section of the alley, the drug effect was greater in lesioned than sham-operated rats. The lesions retarded extinction, and this effect was reduced by the drug. A model for the neural loci at which amylobarbitone acts to affect resistance to extinction, based on these and other results, is proposed. 18 references. (Author abstract modified)

**106393** Henriksson, Bengt G.; Jarbe, Torbjorn. Department of Psychology, University of Uppsala, Slottsgård 3, S-75220 Uppsala, Sweden The effects of two tetrahydrocannabinols, (delta9-THC and delta8-THC) on conditioned avoidance learning in rats and its transfer to normal state conditions. *Psychopharmacologia (Berlin)*. 22(1):23-30, 1971.

Rats trained in conditioned avoidance responding (CAR) after injections of either 7.5mg/kg delta9-THC (tetrahydrocannabinol) or 15mg/kg

delta8-THC showed no transfer when tested in the nondrugged state. Furthermore, these doses of the isomeric tetrahydrocannabinols exerted a disruptive effect on previously established CAR in rats, trained under normal conditions. Only the delta9-THC group showed an impairment of acquisition which was statistically significantly compared to the control group. 24 references. (Author abstract)

**106394** Ross, N.; Monti, J.M. Departamento de Farmacologia y Terapeutica, Hospital de Clinicas, Piso 1, Montevideo, Uruguay Effects of haloperidol, trifluoperidol, nitrazepam and chlordiazepoxide upon conditioned midbrain behavioral responses. *Psychopharmacologia (Berlin)*. 22(1):31-44, 1971.

The actions of haloperidol, trifluoperidol, nitrazepam and chlordiazepoxide upon the behavioral and EEG responses were studied during the stages of reinforcement and differentiation of avoidance conditioning in cats with chronically implanted electrodes. The behavioral conditioned response was characterized by the presence of both attentional and emotional components. During reinforcement the emotional component was selectively depressed by all the administered compounds, while the attentional one and the EEG conditioned response were depressed only after the highest doses of haloperidol and trifluoperidol. In the differential conditioning the same changes were present during the responses to the reinforced stimulus, although the conditioned responses were more sensitive to the disrupting effects of the drugs and a selective activity on the emotional component did not appear after the benzodiazepine derivatives administration. During both paradigms the EEG arousal patterns very frequently showed a delay after the presentation of the conditioned stimulus and were characterized by lower frequencies and higher amplitudes when compared with placebo. It is suggested that the selectivity of action of the butyrophenone and benzodiazepine derivatives on the emotional component of the conditioned response could be related with a specific action on neural substrates located in the limbic system. 16 references. (Author abstract modified)

**106424** Andjelkovic, Draginja; Beleslin, D.B.; Vasic, B.V. Department of Pharmacology, Medical Faculty, Belgrade 11105, Yugoslavia Effect of eserine injected intraventricularly on behaviour and

on activity of cholinesterase in some structures of the cerebral ventricles of the conscious cat. *Journal of Pharmacy and Pharmacology* (London). 23(12):984-985, 1971.

Results are briefly reported from a study of the effect of eserine, injected intraventricularly, on behavior and on activity of cholinesterase in some structures of the cerebral ventricles of the conscious cat. Data indicate that the acetylcholinesterase activity paralleled motor disturbances in the caudate nucleus. With the smallest dose of eserine, motor disturbances have been seldom seen and no changes in the activity of acetylcholinesterase occurred. By increasing the dose of eserine, motor disturbances strengthened and the acetylcholinesterase activity gradually decreased. In the cat, small, unilateral lesions, that damage exclusively the anteroventral region of the caudate nucleus, produce stable and permanent behavioral changes resembling human athetoid and choreiform hyperkinesias. Thus, it is possible that a neurohumoral imbalance produced by a cholinesterase inhibitor can cause motor disturbances mainly originating from the caudate nucleus. Finally, when the inhibition of acetylcholinesterase activity amounted to 50%, clonic tonic convulsions appeared. 4 references.

106489 Hirschhorn, Ira D.; Winter, J.C. Department of Pharmacology, State University of New York, School of Medicine, 122 Capen Hall, Buffalo, New York 14214 Mescaline and lysergic acid diethylamide (LSD) as discriminative stimuli. *Psychopharmacologia* (Berlin). 22(1):64-71, 1971.

In view of the observation that a particular drug state may acquire the properties of a discriminative stimulus is explicable on the basis of drug induced interoceptive cues, an investigation sought to determine (a) whether the hallucinogens mescaline and lysergic acid diethylamide (LSD) could serve as discriminative stimuli when either drug is paired with saline and (b) whether discriminative responding would occur when the paired stimuli are produced by equivalent doses of LSD and mescaline. In a standard 2 lever operant test chamber, rats received a reinforcer (sweetened milk) for correct responses according to a variable interval schedule. All sessions were preceded by 1 of 2 treatments; following treatment A, only responses on lever A were reinforced and, in a similar fashion, lever B was correct following treatment B. No responses were reinforced during the first 5 minutes of a daily 30

minute session. It was found that mescaline and LSD can serve as discriminative stimuli when either drug is paired with saline and that the degree of discrimination varies with drug dose. When equivalent doses of the 2 drugs were given to the same animal, no discriminated responding was observed. The latter finding suggests that mescaline and LSD produce qualitatively similar interoceptive cues in the rat. 11 references. (Author abstract modified)

106523 Goldberg, M.E.; Sledge, K.; Hefner, M.; Robichaud, R.C. Department of Pharmacology, Warner-Lambert Research Institute, Morris Plains, N.J. 07950 Learning impairment after three classes of agents which modify cholinergic function. *Archives Internationales de Pharmacodynamie et de Therapie* (Gent). 193(2):226-235, 1971.

Scopolamine, mecamlamine, and 4-(1-naphthylvinyl) pyridine (NVP) were selected as representative agents which possess central antimuscarinic, antinicotinic, and choline acetyltransferase inhibitory effects, respectively, and were studied in several learning paradigms. Selective impairment of active (pit) avoidance learning in mice was obtained after scopolamine and mecamlamine after doses which equalled or exceeded 3.0 and 6.25 mg/kg, respectively. Impairment of 1 trial passive avoidance acquisition was observed only after an approximate 7 fold increase in dosage with these agents. NVP inhibited active and passive avoidance learning only after 200 mg/kg, a dose which caused profound depression of spontaneous locomotor activity. In fear learning studies in rats, only scopolamine caused amnesia for an aversive stimulus. Both antimuscarinic and antinicotinic agents impair avoidance learning, while only antimuscarinic agents inhibit the learning of fear behavior. 30 references. (Author abstract)

106525 Jewett, R.E. Department of Pharmacology, Division of Basic Health Sciences, Emory University, Atlanta, Georgia 30322 The effects of selected phenothiazines on the sleep of cats. *Archives Internationales de Pharmacodynamie et de Therapie* (Gent). 193(2):330-339, 1971.

Three doses of 3 phenothiazines were administered subcutaneously to male and female cats in order to determine effects of these drugs on sleep stages during morning and afternoon test periods. The highest dose of each drug promethazine, 2 mg/kg; chlorpromazine, 4 mg/kg;

and trifluoperazine, 0.32mg/kg caused a decrease in absolute minutes and percent rapid eye movement (REM) sleep in both test periods. Promethazine increased minutes of nonrapid eye movement (NREM) sleep; the other drugs did not. Durations of REM episodes were not changed. Promethazine and chlorpromazine tended to increase NREM sleep preceding REM episodes. These results are interpreted as follows: promethazine decreases REM sleep by enhancing the factor(s) responsible for NREM sleep, while chlorpromazine and trifluoperazine decrease REM sleep by depressing the factor(s) responsible for REM sleep. 11 references. (Author abstract modified)

**106685 Ungerer, Arielle.** Laboratoire de Psychophysiologie, Université Louis Pasteur, 7, rue de l'Université, 67-Strasbourg, France Effects of puromycin on retention of instrumental training of mice. Effets de la puromycine sur la rétention d'un apprentissage instrumental chez la souris. *Physiology & Behavior*. 7(6):811-814, 1971.

Three groups of mice were submitted to a simple instrumental training, without discriminative stimulus; 24 hr after attaining the learning criterion, they received either bilateral injections of 90 micrograms of puromycin, or temporal, ventricular and frontal injections of 60 micrograms of puromycin. Puromycin had no effect on retention of a simple instrumental training, whatever doses were injected. These results do not seem to be due to an overtraining of the animals. In contrast to this, temporal, ventricular and frontal injections of 50 micrograms of puromycin each, deeply impaired retention of a discriminative instrumental training with both light and sound as conditioned stimulus. However, a part of the learning remained despite the action of puromycin. Therefore, puromycin seems to have a specific action on retention of discrimination. 16 references. (Author abstract modified)

**106688 Kelly, Dennis D.; Glusman, Murray.** New York State Psychiatric Institute, New York Behavioral contrast: an unlocalized effect of a local anesthetic. *Physiology & Behavior*. 7(6):837-840, 1971.

Three cats implanted with subcutaneous shock electrodes in both flanks were required to press a lever to reduce slightly the intensity of a continuously present and gradually increasing electric shock. Whenever 1 unilateral electrode site was

anesthetized with procaine, cats tolerated there the maximum shock available (5 ma) for 1/2 hr postinjection, with some return of sensation by 100 min, and restoration of normal shock tolerance levels by at least 400 min. By contrast, on intervening tests, titration performance was enhanced and aversive thresholds apparently reduced for shocks applied to the opposite side of the cat's body. The latter result is difficult to attribute to the pharmacologic activity of the procaine and may represent an example of drug induced behavioral contrast. 16 references. (Author abstract)

**106689 Campbell, A.Bruce; Brown, Roger M.; Seiden, L.S.** Departments of Psychology, Pharmacology, and Psychiatry, University of Chicago, Chicago, Illinois A selective effect of p-chlorophenylalanine on fixed-ratio responding. *Physiology & Behavior*. 7(6):853-857, 1971.

Rats were trained to lever press for water on an FR 20 schedule of reinforcement. Administration of p-chlorophenylalanine (2 injections of 150mg/Kg 24 hr apart) depleted whole brain serotonin and produced marked changes in the interresponse time distribution. p-Chlorophenylalanine had no effect on the overall rate of response, or on the frequency or duration of short interresponse times. The postreinforcement pause was reliably lengthened by p-chlorophenylalanine. The increase in postreinforcement pause did not appear to be due to changes in the deprivation state, since an identical drug regimen had no effect on water intake, during a free watering period, in water deprived animals. The effect of p-chlorophenylalanine might be due to an increase in the aversiveness of environmental stimuli. 19 references. (Author abstract modified)

**106694 Seegal, Richard F.; Isaac, Walter.** University of Georgia, Athens, Georgia 30601 Sensory influences upon amphetamine tolerance. *Physiology & Behavior*. 7(6):877-879, 1971.

The effects of illumination, noise, and d-amphetamine upon locomotor activity were studied in the rat. While both noise and illumination altered activity level, only illumination was related to the drug effects. The effectiveness of the drug was found to decrease, primarily in the dark, over repeated trials. 12 references. (Author abstract)

106757 Ahlenius, Sven; Anden, Nils-Erik; Engel, Jorgen. Department of Pharmacology, University of Goteborg, Sa400 33 Goteborg, 33, Sweden Importance of catecholamine release by nerve impulses for free operant behavior. *Physiology and Behavior*. 7(6):931-934, 1971.

Suppression of the food reinforced lever pressing (FR-40) in rats after alpha-methyl-tyrosine, but not after tetrabenazine, was antagonized by L-3,4-dihydroxyphenylalanine. The free operant behavior may be dependent on catecholamine release in the brain by nerve impulses. 7 references. (Author abstract)

106786 Bauer, Richard H.; Duncan, Nancy C. Dept. of Psychology, Univ. of Houston, Houston, Texas 77004 Twenty-four-hour proactive facilitation of avoidance and discrimination learning in rats by d-amphetamine. *Journal of Comparative & Physiological Psychology*. 77(3):521-527, 1971.

A series of experiments was designed to determine if the analeptic d-amphetamine given 24 hr. prior to training would facilitate acquisition. In the first experiment male Long-Evans rats were given daily injections of saline or 2mg/kg d-amphetamine for 2, 5, or 10 days and trained on a shuttle box avoidance task 24 hr. after the last injection. In Experiment 2 male Long-Evans rats received daily injections of saline or 2mg/kg d-amphetamine for 5 or 10 days and were trained in a brightness discrimination 24 hr. after the last injection. The results indicated that rats receiving 5 or 10 drug injections acquired the tasks at a faster rate than those receiving saline. These results are discussed in terms of their relevance for posttrial drug facilitation of learning studies with d-amphetamine. 18 references. (Author abstract modified)

106797 Lytle, Loy D.; Moorcroft, William H.; Campbell, Byron A. Dept. of Nutrition and Food Science, Massachusetts Institute of Technology, Cambridge, Mass. Ontogeny of amphetamine anorexia and insulin hyperphagia in the rat. *Journal of Comparative & Physiological Psychology*. 77(3):388-393, 1971.

The effects of amphetamine and insulin on food intake were studied in neonatal and weanling rats. Amphetamine did not produce anorexia prior to 15 days of age and insulin did not produce hyperphagia until 25 days of age. Functional immaturity of the hypothalamus, a change in constituents monitored by the hypothalamus, or

maturation of other structures may account for this developmental sequence. 22 references. (Author abstract)

106910 Mayer, O.; Eybl, V. Pharmacological Dept., Medical Faculty of Charles University, Pilsen, Czechoslovakia The effect of diethyldithiocarbamate on amphetamine-induced behavior in rats. *Journal of Pharmacy and Pharmacology (London)*. 23(11):894-896, 1971.

Sodium diethyldithiocarbamate (DDC), a potent inhibitor of the enzyme dopamine beta-hydroxylase of brain in vivo, was studied with respect to its effects on 2 aspects of amphetamine induced hyperactivity in rats. Female albino rats (Wistar) of the Lysolaje strain were used. DDC and commercial solutions of amphetamine sulphate (AMPH) and imipramine were administered intraperitoneally diluted in water. DDC was found to depress exploratory activity in both untreated and AMPH stimulated rats on the one hand, while on the other it prolonged the duration of the amphetamine stereotyped behavior. DDC is considered to increase lethality in aggregated mice; combined with pargyline it provokes aggressiveness in rats that is accompanied by a decrease in brain noradrenaline and a rise in dopamine. 14 references.

107159 Wolhuis, O.L. Brain Research Institute, University of Tennessee Medical Units, 800 Madison Ave., Memphis, Tennessee 38103 Experiments with UCB 6215, a drug which enhances acquisition in rats: its effects compared with those of metamphetamine. *European Journal of Pharmacology (An International Journal) (Amsterdam)*. 16(3):283-297, 1971.

The behavioral effects of 2-pyrrolidone acetamide (UCB 6215) and metamphetamine were studied in rats. When injected 30 min before training, both drugs considerably enhanced acquisition in a Y-maze and an automated drink test. Memory disruptive effects of electroconvulsive shock and pentylenetetrazole treatment after 1 trial passive avoidance learning were not affected by UCB 6215; Y-maze learning was not affected if UCB 6215 or metamphetamine was injected daily immediately after training. When fully trained animals were injected twice daily during a period of rest, results of retention tests 24 hr after the last injection were not different in UCB 6215, metamphetamine, or saline treated animals. However, when retention tests were performed 30 min

after injection, scores in the metamphetamine treated groups were much higher, whereas they were equal in UCB 6215 and saline treated groups. Horizontal movements and rearing, which were automatically scored, were not affected by UCB 6215; metamphetamine, however, increased both. 'Flinch' thresholds, resulting from footshock, were not altered by UCB 6215 and were insignificantly elevated by metamphetamine. Preliminary results suggest that UCB 6215 exerts its effects on acquisition through an action on visual registration. 30 references. (Author abstract modified)

**107628** Ferraro, Douglas P.; Grilly, David M.; Lynch, Wesley C. Dept. of Psychology, Univ. of New Mexico, Albuquerque, N.M. 87106 Effects of marihuana extract on the operant behavior of chimpanzees. *Psychopharmacologia (Berlin)*. 22(4):333-351, 1971.

The effects of marihuana extract on the operant behavior of chimpanzees were studied. Six chimpanzees were trained to panel push under a food reinforcement baseline in which 3 operant schedules, each associated with a different stimulus, were presented successively. The fixed ration (FR) reinforcement schedule required the emission of 40 responses for reinforcement. Reinforcement under the differential reinforcement of low rate (DRL) schedule was delivered only when successive responses were spaced by at least 10 sec. During the extinction or time out from positive reinforcement schedule (TO), no responses were reinforced. In Experiment 1, amounts of marihuana extract containing from 0.2 to 4.0 mg/kg tetrahydrocannabinol (delta 9 THC) were orally administered 1 h prior to experimentation. In Experiment 2, 1.0 mg/kg delta 9 THC was orally administered between 1 and 23 h prior to experimental sessions. No disruption of stimulus control or drug effects during TO were observed. Both DRL and FR response suppression occurred at the highest drug dose. Lower delta 9 THC doses produced facilitation of DRL responding up to 12 h following drug administration. Although FR responding was less sensitive, delta 9 THC stimulated FR behavior from 2 to 5 h following drug administration. It was concluded that marihuana has a biphasic effect on food reinforcement schedule controlled operant behavior. 29 references. (Author abstract modified)

**107629** Cappell, Howard; LeBlanc, A.E. Alcoholism and Drug Addiction Research Foundation, 33 Russell St., Toronto 4, Ontario, Canada Continued aversion to saccharin by single administrations of mescaline and d-amphetamine. *Psychopharmacologia (Berlin)*. 22(4):352-356, 1971.

The possibility that there is a significant punishing component to drug administration was investigated in an aversive taste conditioning paradigm. Mescaline, which is refused by monkeys, and d-amphetamine, which is self-administered by both rats and monkeys, were compared. Five min after drinking saccharin solution for the first time, groups of rats were injected intraperitoneally with saline or different doses of each drug. Conditioned taste aversion was clearly demonstrated with both drugs; on a second exposure to saccharin solution, fluid consumption was greatly depressed compared to control values. This was true even with a dose of d-amphetamine (2 mg/kg) known to be self-administered by rats. The results suggest that intravenous drug self-administration may involve a punishing component which is detectable only in an appropriate behavioral test. It was also noted that aversive taste conditioning was demonstrable at doses frequently used in behavioral pharmacological investigations. 12 references. (Author abstract modified)

**107631** Holtzman, Stephen G.; Jewett, Robert E. Dept. of Pharmacology, Woodruff Medical Center, Emory Univ., Atlanta, Ga. 30322 Interactions of morphine and nalorphine with physostigmine on operant behavior in the rat. *Psychopharmacologia (Berlin)*. 22(4):384-395, 1971.

Morphine and nalorphine were tested alone and in combination with physostigmine (0.0625 mg/kg) in rats trained under a continuous avoidance schedule with an escape contingency. When tested alone, nalorphine increased avoidance rate in doses up to 32 mg/kg but exerted no other effects. Morphine, 1 mg/kg, increased avoidance response rate while higher doses produced a graded depression of all behavior. In the presence of physostigmine, nalorphine produced a well defined graded depression of avoidance responding and increased the number of shocks received by the animals over a 16 fold dose range. Physostigmine failed to potentiate the prominent depressant effects of morphine in the same test situation. The finding that in the presence of cholinesterase inhibition nalorphine acts as a

depressant of operant behavior in the rat supports existing evidence that cholinergic mediation should be considered as a factor in some of the actions of strong analgesics. 28 references. (Author abstract)

**107943 Roffman, M.; Lal, H.** Dept. of Pharmacology and Toxicology, Univ. of Rhode Island, Kingston, R.I. 02881 Facilitatory effects of amphetamine on learning and recall of an avoidance response in rats. *Archives Internationales de Pharmacodynamie et de Therapie (Gent)*. 193(1):87-91, 1971.

A study was done to determine the effects of amphetamine and hydroxyamphetamine on recall of a well defined animal response learned previously. Pretreatment at rats with either amphetamine alone or amphetamine after alpha-methyl-p-tyrosine but not with hydroxyamphetamine resulted in higher avoidance responses during acquisition and recall of a conditioned avoidance response. These data suggest that central mechanisms not necessarily involving newly synthesized catecholamines are involved in the facilitatory effect of amphetamine on learning and recall. 7 references. (Author abstract modified)

**107960 Dubinsky, B.; Goldberg, M.E.** Department of Pharmacology, Warner-Lambert Research Institute, Morris Plains, New Jersey 07950 The effect of imipramine and selected drugs on attack elicited by hypothalamic stimulation in the cat. *Neuropharmacology (Oxford, England)*. 10(5):537-545, 1971.

Attack upon an anesthetized rat was induced in cats by electrical stimulation of the perifornical region of the midlateral hypothalamus. Attack thresholds and current-latency relationships were determined before and after imipramine, iprindole, Lu 3010 (3,3-dimethyl-1-03-methylamino)propyl-10-1-phenyl-phthalan (HC1), chlorpromazine and atropine. Imipramine produced suppression of attack behavior at a calculated ED50 of 8-5mg/kg. Hiss response to stimulation, though not obtained in all cats, was not suppressed by imipramine. The other agents failed to block stimulus bound attack. Blockade of attack by imipramine may be due to its limbic system depressant effects. 21 references. (Author abstract)

**107964 Dominic, J.A.; Moore, K.E.** Dept. of Psychiatry, Stanford University Medical Center,

Stanford, California 94305 Behavior and brain contents of catecholamines in mice during chronic administration of methyl dopa. *Neuropharmacology (Oxford, England)*. 10(5):565-570, 1971.

The behavioral effects of methyl dopa were examined after the addition of this drug to the diet of mice. During the first 24 hr of the methyl dopa diet, continuous nighttime motor activity was reduced, but neither exploratory activity nor amphetamine stimulated activity was altered. Norepinephrine was almost totally depleted from the brain whereas the brain content of dopamine was only slightly reduced; substantial amounts of alpha-methylnorepinephrine but relatively little alpha-methyldopamine accumulated in the brain. Tolerance developed to the depression of continuous activity after 2-4 days of methyl dopa diet. Aggressive behavior and enhanced amphetamine stimulation accompanied the tolerance development, but neither exploratory activity nor pipradrol stimulated activity was increased. Tolerance to the depression of continuous activity and the onset of aggression and enhanced amphetamine stimulation were not accompanied by changes in brain levels of catecholamines; the contents of norepinephrine, dopamine, alpha-methylnorepinephrine and alpha-methyldopamine on day 1 and on day 4 of the diet were the same. 19 references. (Author abstract)

**108032 Rewerski, W.; Kostowski, W.; Piechocki, T.; Rylski, M.** Department of Experimental Pharmacology, Medical Academy of Warsaw, Krakowskie Przedmiescie 26/28, Warsaw 64, Poland The effects of some hallucinogens on aggressiveness of mice and rats, part I. *Pharmacology*. 5(5):314-320, 1971.

The action of lyergic acid diethylamide (LSD), mescaline, and Sernyl on the aggressiveness of isolated mice and killing reaction of rats was investigated. At some dose ranges LSD decreased the aggressiveness of animals isolated for 14 days but did not significantly affect aggressiveness of animals isolated for 28 days. Mescaline was a strong inhibitor of aggressiveness in mice but not in rats, while Sernyl slightly decreased the killing reaction and decreased or increased the aggressiveness of mice according to dose level. 15 references. (Author abstract modified)

**108699 McKinney, William T., Jr.; Elsing, Robert G.; Moran, Elaine C.; Suomi, Stephen J.; Harlow, Harry F.** Department of Psychiatry, University of

Wisconsin Medical School, Madison, Wisconsin 53706 Effects of reserpine on the social behavior of rhesus monkeys. *Diseases of the Nervous System*. 32(11):735-741, 1971.

Reserpine was administered daily by intubation for 81 days to 3 rhesus monkeys. Their behavior during the experimental period was compared to their behavior before and after the drug period, as well as to that of a control group of 3 monkeys given water instead of reserpine. Reserpine caused significant behavioral changes in the rhesus monkey. These changes included decreases in visual exploration and locomotion, and increases in self-huddling, posturing, and tremor. The behavior effects of repeated daily dosage were not cumulative nor was a tolerance developed by the Ss. 11 references. (Author abstract modified)

108732 Schechter, Martin D.; Rosecrans, John Dept. of Pharmacology, Medical College of Virginia, Richmond, Va. 23219 C.N.S. effect of nicotine as the discriminative stimulus for the rat in a T-maze. *Life Sciences*. 10(14):821-832, 1971.

Rats were trained to make a specific behavioral response in a T-maze apparatus conditional upon whether they were injected subcutaneously with 400 micrograms/kg nicotine or saline. This differential response was dose and time related. Pretreatment with 750 micrograms/kg hexamethonium had no effect on the rats' ability to discriminate the cueing effect of nicotine, whereas, pretreatment with 500 micrograms/kg mecamylamine significantly inhibited this effect. It appears that whatever the cues were to which the rats differentially responded, system. 13 references. (Author abstract)

109358 Hibbs-Treacy, Mary. Washington State University The attenuating effect of strychnine and physostigmine on dural electroconvulsive shock-induced retrograde amnesia. (Ph.D. dissertation). *Dissertation Abstracts International*. Ann Arbor, Mich., Univ.M-films, No.71-28775 HC\$10.00 MF\$4.00 121 p.

Two experiments were conducted on the attenuating effect of strychnine and physostigmine on dural electroconvulsive shock induced (ECS) retrograde amnesia (RA) in rats. Experiment 1 compared 2 methods of ECS administration (direct cortical and pinneal) at each of 5 footshock (FS)-ECS intervals for relative effectiveness in inducing RA for a single trial passive

avoidance conditioned response. Results indicated that no RA was obtained when cortical ECS was delayed for longer than 1 min after learning, and for pinneal ECS when delayed longer than 30 sec after learning. With both modes, the production of memory impairment was time dependent, with greater impairment occurring at the shortest FS-ECS intervals. Experiment 2 assessed the effects of strychnine and physostigmine on the attenuation of experimentally (ECS) induced RA. Results indicated that both attenuated ECS induced RA. Both time of drug administration and time of ECS administration were significant variables in determining degree of drug induced attenuation. Although physostigmine was slightly more attenuating, the difference was nonsignificant. (Journal abstract modified)

109503 Warwick, Gretchen R.G. Zimmermann. University of Nebraska The effects of drug-induced increases in ribonucleic acids and proteins on memory. (Ph.D. dissertation). *Dissertation Abstracts International*. Ann Arbor, Mich., Univ.M-films, No.71-28654 HC\$10.00 MF\$4.00 62 p.

The effects of drug induced increases in ribonucleic acids (RNA) and proteins on memory were investigated in albino mice. A reversal task was used to see if memory became more firmly established initially and would therefore be more resistant to subsequent reversal learning. A relearning task was used to see if memory might be maintained at its original strength over a period of time as compared to normal memory which decays to some extent during the interval. Learning was assessed after 1 injection of tricyanoaminopropene (TCAP), a drug known to increase both RNA and proteins. It is hypothesized that: (1) TCAP induced increases in RNA and proteins impair reversal learning; (2) TCAP induced increases in RNA and proteins facilitate relearning of the original task; and (3) TCAP induced increases in RNA and proteins do not affect learning. The first hypothesis was not supported, as there were no significant differences between TCAP and saline control animals in reversal learning. Hypothesis 2 was partially supported, since TCAP animals relearning to avoid light learned significantly faster than their saline counterparts. The third hypothesis was also supported. An unexpected finding was an apparent sensitivity to light which seemed to have developed after repeated injection of TCAP. The implications of this effect and other results are discussed. (Journal abstract modified)

**109636 Johnson, Kenneth Dean.** University of Arkansas The effects of hydroxyzine on water maze performance. (Ph.D. dissertation). *Dissertation Abstracts International*. Ann Arbor, Mich., Univ.M-films, No.71-27693 HC\$10.00 MF\$4.00 36 p.

An investigation was made of the relationship between activation level and performance in a complex water maze. Fiske and Maddi's (1961) activation theory was used to make predictions about performances of rats with and without previous water experience. The tranquilizer, hydroxyzine, was used to vary activation level of the rats. Fiske and Maddi's theory predicts the activation level produced by a particular stimulus situation will decrease with continued presentation of that situation. Previous research indicated that the water maze was a complex task in which rats were above the optimal level of activation predicted by the hypothesized inverted U shaped function relating activation level and performance. It was further assumed that hydroxyzine would lower the activation level of the rats. It was predicted that tranquilizer rats would initially perform better in the water maze than would control rats. As the activation level of the rats dropped with continued water experience, all the rats' activation levels would become lower than the optimal level. The controls, having the highest activation level, and therefore being closest to the optimal level, should demonstrate better performance. It was further predicted that rats with previous water experience would already be below the optimal activation level for the water maze. Control rats, again being closer to the optimal activation level, should always demonstrate better performance than tranquilized rats with previous water experience. All hypotheses were supported by the results. (Journal abstract modified)

**109736 Cherkaskin, A.N.; Azarashvili, A.A.** Institute biofiziki, Pushchino na Oke, USSR /Animal dissociated learning as affected by pentobarbital administration./ K voprosu o dissotsirovannom obuchenii zhivotnykh. *Voprosy Psikhologii (Moskva)*. No.4:42-48, 1971.

So-called dissociated, or state dependent learning is considered for the same group of rats trained to approach the right chamber of a maze in a normal state and the left chamber after injection of pentobarbital. After a certain period of training, the rats choose the right or left turn in 100% of tests, depending upon the drugged or un-drugged state. Complete dissociation of these

states was observed; extinction of the conditioned reflex in the normal state did not affect the conditioned reflex in the state under pentobarbital. The data suggest that 3, 4, or more dissociated forms of learning can be obtained in animals. Reproduction of reactions (readout of memory traces) is possible only against a background of the same chemical state of the brain which existed during recording of the relevant traces. 14 references. (Journal abstract modified)

**110036 Gonzalez, Sergio C.; Carlini, E.A.** Departamento de Bioquímica e Farmacologia, Escola Paulista de Medicina, Rua Botucatu, 862, San Paulo, Brazil Extinction of operant responses by rats under the effects of Cannabis sativa extract. *Psychonomic Science*. 24(5):203-204, 1971.

Rats previously trained in T- and Lashley III mazes and injected with cannabis extract during extinction showed an equal trend to extinguish when compared to control animals. On the other hand, rats which had been trained in the T-maze under marihuana action extinguished as controls when extinction sessions were carried out without drugs. These data contradict the hypothesis, put forth to explain the effects of cannabis in reducing conditioned emotional responses (CER) of rats, that marihuana compounds potentiate dominant responses. 11 references. (Author abstract)

**110177 Kumar, R.** Department of Pharmacology, University College London, Gower Street, London W.C.1, England Extinction of fear II: effects of chlórdiazepoxide and chlorpromazine on fear and exploratory behaviour in rats. *Psychopharmacologia (Berlin)*. 19(3):297-312, 1971.

The effects of chlórdiazepoxide and chlorpromazine on responses to, and extinction of, conditioned fear were analyzed. Rats avoided a distinctive environment in which they had previously received inescapable electric shocks; the amounts of passive avoidance were taken as indices of the levels of conditioned fear on repeated unpunished tests. Chlórdiazepoxide, 7.5 and 15.0mg/kg tended to reduce fear, but did not accelerate its extinction; 30.0mg/kg however, retarded the extinction of fear by making the rats inactive and thus reducing the number of unpunished entries into the fear evoking environment. The effects of chlórdiazepoxide on locomotor activity were complex; entries were increased by all 3 doses of chlórdiazepoxide on the first trial only, and following this, activity was mar-

edly depressed by 30.0mg/kg. Chlorpromazine on the other hand, consistently reduced locomotor activity and at the same time it increased avoidance, possibly by augmenting fear. As a result of this increased avoidance, the extinction of fear tended to be retarded by 1.5mg/kg of chlorpromazine. The slowing of the 'free' extinction of fear by both of these drugs was critically dependent on the doses used, but in no case was there a 'beneficial' effect, indicating hastened extinction of fear. 44 references. (Journal abstract modified)

**110182 Banerjee, U.** Department of Pharmacology, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia Acquisition of conditioned avoidance response in rats under the influence of addicting drugs. *Psychopharmacologia (Berlin)*. 22(2):133-143, 1971.

The acquisition of conditioned avoidance response in rats under the influence of addicting drugs was studied. Four groups of white rats, aged 8-12 weeks, were treated with morphine, D-lysergic acid diethylamide (LSD), DL-amphetamine and ethanol, respectively, while being trained in a conditioned avoidance response (CAR) schedule. Morphine caused deterioration in the acquisition of CAR, as manifested by significant increases in the number of training sessions required for 100% correct CAR and in the reaction time (RT), when compared to those of a control group. The RT decreased after withdrawal of morphine and was associated with a revival of the conditioned emotional responses (CER). LSD and ethanol insignificantly retarded the acquisition of CAR, while withdrawal of LSD caused significant increases in the RT, error and CER. Amphetamine facilitated the acquisition rate associated with increased CER; during withdrawal, the CER was negligible whereas the error increased significantly. In another series of rats, tolerance was seen to morphine and, to a less extent, to ethanol and amphetamine after 8-12 days of continued treatment; whereas the withdrawal effects lasted for 3-4 days only. These effects of the addicting drugs on conditioned learning are discussed in the light of their influence on the emotional responses of the animals and the degree of development of drug dependence. 17 references. (Author abstract modified)

**110185 Tang, A.H.; Kirch, J.D.** Department of CNS Research, Upjohn Company, Kalamazoo,

Michigan 49001 Appetite suppression and central nervous system stimulation in the rhesus monkey. *Psychopharmacologia (Berlin)*. 21(2):139-146, 1971.

Results of animal studies with some standard appetite suppressant drugs and experimental compounds are reported. In individually caged, unrestrained rhesus monkeys, food consumption, spontaneous activities and nighttime sleep were measured with a minimum of experimental manipulation. Fenfluramine, chlorphentermine and U-22, 394A (1, 2, 3, 4, 5, 6-hexahydro-6-methylazepino 04,5-b0 indole hydrochloride) were found to reduce food intake in doses that produced no sign of central stimulation. Several derivatives of phenethylamine with parachloro substitution also had weaker stimulant activities at anorectic doses when compared to the nonchlorinated parent compounds. 16 references. (Journal abstract modified)

**110186 Houser, Vincent P.; Feldman, Robert S.** Pavlovian Research Laboratories, Veterans Administration Hospital, Perry Point, Maryland 21902 The effects of cholinergic agents upon fixated behavior. *Psychopharmacologia (Berlin)*. 21(2):147-156, 1971.

The effects of cholinergic agents upon fixated behavior are discussed in a study in which a group of male albino rats were subjected to the Maier paradigm (insoluble problem followed by a soluble problem) using the Lashley jumping stand. Forty two animals which failed the soluble problem by adopting a position stereotype were then randomly assigned to 8 drug groups in a 2 X 2 design. Animals were guided to the correct window on odd days but received no guidance on even days. Animals received either pilocarpine nitrate (5.0mg/kg) or scopolamine hydrobromide (1.0mg/kg) in 1 of 3 different sequences. These sequences included drug on both odd and even days (drug-drug), only on the odd day (drug-no drug), or only on the even day (no drug-no drug). One other drug group received scopolamine methylbromide (1.0mg/kg) in a drug-no drug sequence, while the control group received saline on both days. Results indicated that animals receiving pilocarpine in the drug-drug and no drug-drug sequence solved significantly faster than the controls, while all the drug-no drug groups showed significantly poorer solution rates. It was concluded that pilocarpine may enable animals to inhibit punished behavior patterns and thus hasten the extinction of fixated responses,

but that due to the inconclusive scopolamine data the pilocarpine effect may not be due to its cholinomimetic properties. 15 references. (Journal abstract modified)

**110187 Ellinwood, E.H., Jr.** Department of Psychiatry, Duke University Medical School, Durham, North Carolina 27706 'Accidental conditioning' with chronic methamphetamine intoxication: implications for a theory of drug habituation. *Psychopharmacologia (Berlin)*. 21(2):131-138, 1971.

Some implications for a theory of drug habituation are offered in a case of accidental conditioning with chronic methamphetamine intoxication. Methedrine was chronically administered twice a day to a group of cats over a period of 11 days. The stereotyped behavior elicited after injection became increasingly constricted over the 11 days. After Day 1 when the cats were placed in the observation cages just prior to injection, the stereotyped behavior would most often be initiated even before the injection, indicating a conditioning process. The behavior induced, as well as the parameters of reward, appears to fit well the accidental contingencies conditioning paradigm. 19 references. (Journal abstract modified)

**110190 Appel, James B.** Department of Psychiatry, University of Chicago, 950 East 59th Street, Chicago, Illinois 60637 Effects of LSD on time-based schedules of reinforcement. *Psychopharmacologia (Berlin)*. 21(2):174-186, 1971.

The functional relationship between rate of bar pressing and a wide range of dosages of lysergic acid diethylamide (LSD) was studied under different conditions or schedules of reinforcement -- variable interval, differential reinforcement of low rate (drl), and drl plus concurrent periods of punishment. In general, low doses (0.01-0.04mg/kg of LSD) increased or facilitated responding as an inverse function of base line response rate and high doses (0.08-0.32mg/kg) depressed behavior not already depressed by environmental contingencies. 20 references. (Journal abstract)

**110191 Taylor, M.; Livesey, J.; Dempster, T.; Bunce, R.** Department of Psychology, University College of North Wales, Bangor, North Wales The effects of acutely administered fenfluramine on activity and eating behaviour. *Psychopharmacologia (Berlin)*. 21(2):165-173, 1971.

Three experiments are reported investigating the effects of acute administration of fenflur-

amine over 3 doses on activity, eating and drinking behavior in the rat. A time sampling procedure of activity analysis was used, employing 6 behavior categories. Fenfluramine produced a dose related decrease in rearing behaviors, with some evidence of an increase in walking categories at the lower dose levels. Eating and drinking behaviors showed clear dose related decreases. Sniffing categories showed a clear dose related increase. Attention is drawn to some of the difficulties of interpretation and assessment of anorexic effect. 15 references. (Journal abstract modified)

**110192 Hartmann, Ernest; Bridwell, Thomas J.; Schildkraut, Joseph J.** Sleep and Dream Laboratory, 591 Morton Street, Boston, Massachusetts 02124 Alpha-methylparatyrosine and sleep in the rat. *Psychopharmacologia (Berlin)*. 21(2):157-164, 1971.

l-Alpha-methylparatyrosine (l-AMPT) administered orally in doses of 50, 75 and 100mg/kg produced a significant increase in desynchronized sleep time (D-time) in the rat. However, 75mg/kg of l-AMPT, administered intraperitoneally resulted in disturbed sleep and reduced D-time; this may explain some discrepancies in previous studies. Over a 24 h period, the time of maximum increase in D-time after oral l-AMPT coincided closely with the time of maximum decrease in brain norepinephrine levels; both occurred 7-10 h after drug administration. 28 references. (Journal abstract)

**110205 Gibbins, R.J.; Kalant, H.; LeBlanc, A.E.; Clark, J.W.** Addiction Research Foundation, 33 Russell Street, Toronto 149, Ontario, Canada The effects of chronic administration of ethanol on startle thresholds in rats. *Psychopharmacologia (Berlin)*. 19(2):95-104, 1971.

The thresholds for startle responses to electric shock were measured in adult male Wistar strain rats given ethanol daily in doses rising from 3 to 7g/kg over a 30 day period, and in controls receiving equicaloric doses of sucrose. Tests made 23, 36 or 47 h after ethanol (during partial or complete ethanol withdrawal) gave threshold values significantly lower than those obtained with sucrose treated controls. The difference became greater after longer ethanol treatment and larger doses. However, when threshold measurements were made under the acute influence of ethanol in the experimental group, the mean values were virtually equal to those of the sucrose

controls. This normalization, by ethanol, of a disturbance produced by absence of ethanol in a chronically treated animal is indicative of physical dependence. Following termination of ethanol treatment there was a gradual return of startle thresholds almost to control values over a relatively short period, indicating that the changes underlying the hyperexcitability are readily reversible. 20 references. (Author abstract)

110493 Rosic, N.; Milosevic, M. Department of Pharmacology, Medical Faculty, University of Beograd, Beograd 7, Yugoslavia Two-way (shuttle-box) avoidance in rats after paraoxon treatment. *Activitas Nervosa Superior (Praha)*. 13(4):241-245, 1971.

Paraoxon in a subcutaneous dosage of 0.3mg/kg depressed the active avoidance of rats with maximum depression 4 hours after administration and recovery after 12 hours. Administration of 0.1mg/kg was ineffective. The training of avoidance behavior was retarded on the second day 2 hours after administration of 0.3mg/kg and was enhanced on the third day 12 hours following treatment. Reversal learning was impaired during the first day 4 hours after the same dosage. The activity of acetyl cholinesterase (AChE) in the brain fell to 30% 30 minutes after administration of paraoxon in a 0.2mg/kg dosage and remained between 30 and 40% throughout the following 12 hours. Free acetyl choline (ACh) in the brain was raised to 273%, then decreased rapidly to 190%, and declined slowly after 3 hours. The results indicate that a relatively large dose of paraoxon in rats produces a marked depression of active avoidance behavior which is dependent upon the interval between treatment and testing. 8 references. (Author abstract modified)

111052 Miller, Loren; Drew, W.G.; McCoy, D.F. Laboratories of Behavioral Neurophysiology, Department of Psychiatry, University of Kentucky Medical Center, Lexington, Kentucky 40506 Effects of post-trial injections of scopolamine and eserine on acquisition of a simultaneous brightness discrimination. *Psychological Reports*. 29(3):1147-1152, 1971.

The effects of posttrial injections of scopolamine and eserine on acquisition of a simultaneous brightness discrimination were studied in 4 groups of rats. Ss were given injections of scopolamine, methylscopolamine, eserine or saline immediately following the completion of an

acquisition trial on a brightness discrimination in a T-maze. Results indicated that eserine and scopolamine groups displayed little or no reduction in errors over 50 acquisition trials, while Ss treated with methylscopolamine or saline showed a marked reduction in errors over the last 15 trials. While the data can be interpreted in terms of a consolidation model of memory, a progressive increase in failures to eat on rewarded trials by groups receiving the centrally active drugs, indicates that side effects of these drugs probably played a role in learning impairments. 7 references. (Author abstract modified)

111133 Roshchina, L.F. Laboratoriya farmakologii Vsesoyuznogo nauchno-issledovatel'skogo khimiko-farmatsevticheskogo instituta im.S.Ordzhonikidze, Moscow /Effect of anticholinesterase substances on changes of conditioned reflexes induced by chlorpromazine./ Vliyaniye antikholinesteraznykh veshchestv na izmeneniya uslovnykh reflektsov, vyzyvayemye aminazinom. *Farmakologiya i Toksikologiya (Moskva)*. 34(5):532-534, 1971.

The interaction of chlorpromazine with anticholinesterase galanthamine and physostigmine, which readily penetrate the central nervous system, and with sugamine, a quaternary galanthamine derivative with elective peripheral action, was investigated in tests conducted on rabbits and rats by using the method of conditioned reflexes of food procuring. Galanthamine and physostigmine used in low doses were found to prevent and used in high doses were found to increase the inhibitory effect of chlorpromazine on conditioned reflexes. Sugamine did not affect the inhibitory effect of chlorpromazine. 8 references. (Journal abstract modified)

111134 Dzhagatspanyan, I.A.; Klygul', T.A. Laboratoriya psikhofarmakologii Instituta farmakologii AMN SSSR, Moscow /Experimental characteristics of some manifestations common to the withdrawal syndrome following discontinuance of long-term administration of diazepam and chlordiazepoxide./ Eksperimental'naya kharakteristika nekotorykh proyavleniy 'sindroma otmeny' posle prekrashcheniya dlitel'nogo vvedeniya diazepam i khlordiazepoksida. *Farmakologiya i Toksikologiya (Moskva)*. 34(5):527-532, 1971.

Changes in the convulsion reaction thresholds in mice after discontinued long-term administration of diazepam and chlordiazepoxide were stu-

died by using the method of intravenous pentylenetetrazol titration. An abrupt decrease of sensitivity thresholds with respect to pentylenetetrazol, below control levels observed in intact animals, was found to occur with discontinued administration of tranquilizers. The intensity and extent of the decline of the thresholds were directly proportional to the dosages used and the duration of drug administration. It is suggested that the nature of the syndrome observed may be related to the so-called withdrawal syndrome. The established regularities justify recommendation of a gradual reduction of dosages when terminating tranquilizers in medical practice. 17 references. (Journal abstract modified)

111135 Shchelkunov, Ye.L. Laboratoriya psikhofarmakologii Leningradskogo psikhonevrologicheskogo instituta im.V.M.Bekhtereva, Leningrad /Adrenergic effect of chronic administration of neuroleptics and antidepressants on a model of apomorphine-induced stereotypy./ Adrenergicheskii effekt khronicheskogo vvedeniya neyroleptikov i antidepressantov na modeli apomorfinovoy stereotipii. *Farmakologiya i Toksikologiya (Moskva)*. 34(5):522-526, 1971.

Chronic administration of neuroleptics, such as chlorpromazine, trifluoperazine (perphenazine), stelazine and haloperidol for a period of 3 to 6 weeks led to materially increased duration of apomorphine induced stereotypy, observed for 1 to 3 months after discontinued administration of the neuroleptics. This phenomenon is better expressed in rats than in mice. The shifts were either less marked or totally absent upon administration of antidepressants (truxal and nosinan) to mice. Administration of imipramine, amitriptyline and dihydrochlorothiazine for a period of 3 to 6 weeks changed the duration of apomorphine induced stereotypy, which persisted for a long time after administration of the drugs was discontinued. Comparison of the data obtained and data from the literature permit the inference that the stimulating effect of apomorphine depends on the rate of dopamine metabolism. 16 references. (Journal abstract modified)

111142 Lal, Harbans; O'Brien, John; Puri, Surendra. University of Rhode Island, College of Pharmacy, Kingston, Rhode Island 02881 Morphine withdrawal aggression: sensitization by amphetamines. *Psychopharmacologia (Berlin)*. 22(3):217-223, 1971.

Aggressive behaviors in rats during the withdrawal from morphine sulfate (400mg/kg/day), were potentiated by methylphenidate or d-amphetamine and l-amphetamine. d-Amphetamine was most active, while hydroxyamphetamine was without any effect. Optimum effect of the drugs depended upon the drug dose and the time of morphine withdrawal. The differential effects of the amphetamine isomers suggests that the sensitization to morphine-withdrawal aggression was due to stimulation of striatal dopaminergic neurons. 17 references. (Author abstract modified)

111144 Stolk, Jon M.; Conner, Robert L.; Barchas, Jack D. Department of Psychiatry, Stanford University School of Medicine, Stanford, California 94305 Rubidium-induced increase in shock-elicited aggression in rats. *Psychopharmacologia (Berlin)*. 22(3):250-260, 1971.

Daily treatment of rats with 0.3 or 0.6 meq/kg rubidium chloride (RbCl) causes an increase in shock elicited aggressive behavior relative to potassium chloride treated controls. Aggressive responses increase immediately with the higher dose of RbCl and are maintained for 12 days. The lower RbCl increases fighting behavior significantly after 11 consecutive injection days. Measurements of flinch, jump, and vocalization threshold reveal no consistent pattern with treatment; thus, it is unlikely that threshold changes underlie the observed increases in aggression. 31 references. (Author abstract)

111145 Wray, Samuel R.; Cowan, Alan. Department of Psychology, University of Hull, Hull, England The effects of naloxone, chlorpromazine, and haloperidol pretreatment on levallorphan-induced disruption of rats' operant behavior. *Psychopharmacologia (Berlin)*. 22(3):261-270, 1971.

Rats trained on a nondiscriminated avoidance procedure (S-S 10 sec, R-S 30 sec) were used to study the effects of naloxone, chlorpromazine and haloperidol pretreatment on levallorphan induced disruption of bar pressing behavior. Levallorphan administration resulted in 2 highly characteristic effects: cessation of responding for approximately 30 min and a subsequent enhancement of response rates over control values. Chlorpromazine and haloperidol antagonized the cessation of responding, but naloxone failed to do this. Levallorphan induced rate enhancement was not affected by any of the compounds used. 28 references. (Author abstract)

111146 Wilson, M.C.; Hitomi, M.; Schuster, C.R. Department of Pharmacology, School of Pharmacy, University of Mississippi, Oxford, Miss. Psychomotor stimulant self administration as a function of dosage per injection in the rhesus monkey. *Psychopharmacologia (Berlin)*. 22(3):271-281, 1971.

The relationships between drug dosage per injection and response rate, and drug dosage per injection and total daily drug intake were ascertained in Rhesus monkeys which self-administered cocaine, pipradrol, methylphenidate, and phenmetrazine intravenously. The study demonstrated the monkeys would self-administer all of these compounds over a wide range of dosages. Furthermore, the magnitude of reinforcement (dosage per injection) and the rate of responding in self-administering these compounds were inversely related. However, total daily drug intake was independent of the dosage per injection over a wide range of dosages. Either the subjects can compensate for large changes in unit dosage so that daily drug intake remains stable or a direct effect of these compounds functions in limiting their self-administration. 8 references. (Author abstract)

111420 Plotnikoff, N. General Pharmacology Department, Abbott Laboratories, North Chicago, Illinois 60064 Pemoline: review of performance. *Texas Reports on Biology and Medicine*. 29(4):467-479, 1971.

The effects of pemoline and other stimulants on performance studies in animals are reviewed. The principal difference found among pemoline and other known stimulants is the long duration of psychostimulant activity of pemoline without sympathomimetic cardiovascular effects. In addition, monkeys did not self-administer pemoline, unlike the amphetamines. The great majority of performance studies in animals established that pemoline was active in enhancing conditioning, involving either positive appetitive or negative shock reinforcement. Clinical studies indicate that pemoline as well as the amphetamines are effective adjuncts in the management of minimal brain dysfunction syndrome in children with learning and behavior disorders. 69 references. (Author abstract modified)

111873 Brain, Paul F. Department of Zoology, University of Sheffield, Yorkshire Possible role of the pituitary/adrenocortical axis in aggressive behaviour. *Nature (London)*. 233 (5320):489, 1971.

The role of pituitary and adrenocortical hormones in behavior is discussed. Evidence has been obtained that ACTH depresses isolation induced aggressive behavior in the albino mouse. Defeated animals show a pronounced increase in adrenocortical activity which is not evident in the victor and it seems likely that this increase in ACTH and/or glucocorticoids may have a cue function in inducing subordinate behavior by increasing the fear response and reducing the aggressive response. An alternative explanation for the result obtained by Cherkin and Meinecke is thus that the stress of anesthesia causes both animals to assume subordination on emerging from anesthesia with a consequent suppression of aggressive behavior. This subordination could be specific to the animal in whose presence they recovered: dominance could be associated with the visual or olfactory characteristics of the other animal. 7 references.

112007 Burov, Yu.V.; Kurochkin, I.G. Laboratoriya farmakologii nervnoy sistemy Instituta farmakologii AMN SSSR, Moscow /Effect of psychotropic agents on the emotional behavior of cats injected with acetylcholine into the central gray matter./ Vliyaniye psikhotropnykh veshchestv na emotsional'noye povedeniye koshki, vyzvannoye vvedeniyem atsetilkholina v tsentral'noye seroye veshchestvo. *Byulleten' Eksperimental'noy Biologii i Meditsiny (Moskva)*. No.12:48-51, 1971.

The effect of chlorpromazine (3 to 6mg/kg), trifluoperazine (0.75 to 4mg/kg), haloperidol (2 to 4mg/kg), meprobamate (30 to 60mg/kg), chlor-diazepoxide (5 to 10mg/kg), tofranyl (6 to 12mg/kg), benactizine (1 to 3mg/kg), atropine (1 to 2mg/kg) and morphine (1.5 to 3mg/kg) on the rage reaction and accompanying encephalographic pattern upon injection of acetylcholine into the central gray matter was studied in chronic experiments on cats. The results indicate that chlorpromazine (6mg/kg) and trifluoperazine (4mg/kg) exert an alleviating effect on behavior, while haloperidol has no effect. Chlorpromazine (3mg/kg) and trifluoperazine (0.75mg/kg) reduce the intensity of the reaction. In contrast to the previously described reaction from stimulation of the hypothalamus, the rage reaction is not blocked by benactizine and atropine. 17 references. (Journal abstract modified)

112313 Dinsmoor, James A.; Bonbright, James C., Jr.; Lille, Daniel R. Psychology Dept., Indiana

Univ., Bloomington, Ind. 47401 A controlled comparison of drug effects on escape from conditioned aversive stimulation ('anxiety') and from continuous shock. *Psychopharmacologia (Berlin)*. 22(4):323-332, 1971.

The effects of chlordiazepoxide and chlorpromazine on escape from conditioned aversive stimulation and from continuous shock were studied. Squirrel monkeys were presented with 2 stimuli in alternation, separated by time out periods during which neither was present. One was white noise accompanied by irregularly spaced pulses of shock, the other continuous shock at a lower intensity. Following an interval of time which varied in an unpredictable sequence, the next depression of the response lever turned the stimulus off. Doses of chlordiazepoxide ranging from 2.5 to 10.0 mg/kg, i.p., produced a significantly greater decrease in the rate of response in the presence of the continuous shock than in the presence of the noise. On the other hand, doses of chlorpromazine ranging from 0.25 to 1.0 mg/kg, i.p., produced no differential effect. Previous findings of selective action on behavior that terminates signals paired with shock (avoidance) may be related to differences in experimental contingencies or in the predrug strength of the 2 performances compared, rather than to the effect of chlorpromazine on an experimental analogue of human anxiety. 20 references. (Author abstract modified)

112314 Erickson, Carlton K. Dept. of Pharmacology and Toxicology, School of Pharmacy, Univ. of Kansas, Lawrence, Kansas 66044 Studies on the mechanism of avoidance facilitation by nicotine. *Psychopharmacologia (Berlin)*. 22(4):357-368, 1971.

A series of experiments were conducted to determine whether nicotine facilitates avoidance acquisition by enhancing consolidation or merely by stimulating performance. Sprague-Dawley albino rats were trained for 15 one hour sessions in a discriminated leverpress avoidance situation with buzzer as a conditioned stimulus. More rats receiving nicotine, 0.4 mg/kg, i.p. immediately before each 1 hour daily session (presession) reached a preset learning criterion than did saline controls, and rats receiving 0.1 mg/kg of nicotine performed better than controls but not as well as those receiving the higher nicotine dose. Rats given similar doses of quaternary nicotine bismethiodide in an identical presession experiment did not learn more proficiently than con-

trols. Other groups of rats were given 4 doses of nicotine in photocell activity cages and the doses of nicotine which facilitated avoidance acquisition actually depressed spontaneous motor activity. Later studies in which rats were given 0.1 and 0.4 mg/kg nicotine or saline i.p. immediately after each session (postsession) showed that the drug also facilitates avoidance acquisition by this method; however, only the lower dose produced significant facilitation in this instance. Finally, rats were again trained with presession nicotine, but saline was substituted for nicotine beginning on session 16. No drug dissociation effect was seen. Results of these studies strongly suggest that small doses of nicotine permanently facilitate the consolidating neural memory trace and do not enhance avoidance acquisition merely by stimulating performance. 16 references. (Author abstract modified)

112315 Glick, Stanley D.; Muller, Robert U. Dept. of Pharmacology, Mount Sinai School of Medicine, N.Y., N.Y. 10029 Paradoxical effects of low doses of d-amphetamine in rats. *Psychopharmacologia (Berlin)*. 22(4):396-402, 1971.

Two experiments were conducted to examine the behavioral effects of low doses of d-amphetamine in rats. In contrast to previous studies showing depression of fixed ratio 30 lever pressing by doses of d-amphetamine greater than 0.5 mg/kg, lower doses of the drug were found to facilitate such lever pressing. A low dose (0.05 mg/kg) of d-amphetamine was also found to enhance the amount of prandial drinking following food deprivation. These results indicated that the dose response curve for d-amphetamine is generally nonmonotonic and usually in the shape of an inverted U. 15 references. (Author abstract)

113518 Roshchina, L.F. Laboratoriya farmakologii VNI khimiko-farmatsevticheskogo instituta im. S. Ordzhonikidze, Moscow /Effect of azaphen on the conditioned avoidance reflex in rats./ Vliyaniye azafena na uslovnyy refleks izbeganiya u krys. *Farmakologiya i toksikologiya (Moskva)*. 34(6):643-646, 1971.

The effect of azaphen, a new antidepressant (2-(4-methylpiperazinyl-1)-10-methyl-3,4-diazaphenoxazine dihydrochloride), on the conditioned avoidance reflexes in rats was examined by comparison with that produced by imizine (imipramine, tophranil). The drug caused inhibition of conditioned reflexes which, with increased

dosages, became more pronounced. Imizine had a similar but stronger effect. Azaphen and imizine potentiated the effect of phenamine on conditioned reflexes. 14 references. (Journal abstract modified)

**113519 Barkov, N.K.** *Laboratoriya farmakologii nervoy sistemy Instituta farmakologii AMN SSSR, Moscow /Pharmacological properties of carbidine./ O farmakologicheskikh svoystvakh karbidina. Farmakologiya i toksikologiya (Moskva).* 34(6):647-650, 1971.

The pharmacological properties of carbidine, a preparation combining the properties of neuroleptic and antidepressant drugs, were investigated in experiments on mice, rats, cats, dogs and monkeys. The studies show that carbidine suppressed induced aggressive reactions in mice and rats as well as unprovoked aggressive behavior in cats and monkeys. The drug also suppresses the defensive conditioned reflexes and the inhibiting effect of carbidine is manifested in the ratio of the bioelectrical activity of the cerebral cortex. The drug is only slightly toxic and possesses high psychotropic activity. 21 references. (Journal abstract modified)

**113749 Bobkova, R.M.** *Laboratoriya neyromakologii Instituta mozga AMN SSSR, Moscow /Effect of triptasine on conditioned reflex processes according to parameters of evoked potentials./ Vliyaniye triptazina na uslovnorefleksornyye protsessy po parametram vyzvannykh potentsialov. Zhurnal nevropatologii i psikhlatril imeni S.S.Korsakova (Moskva).* 71(12):1865-1872, 1971.

The effect of different doses of triptasine (0.01, 0.1 and 0.5 mg/kg) on the amplitude transient parameters of 3 components of primary evoked potentials in the cortical zone of the auditory analyzer, internal geniculate bodies and cochlear nuclei in dogs were analyzed. Serving as a signal to a defensive conditional reflex, a click stimulus indicates that triptasine induces an increase of the amplitude and duration of all components of evoked potentials and a decrease of their latent period. The changes appearing in the evoked potentials under the influence of triptasine occur during the first hour following its administration and continue from a few hours to several days. This indicates that triptasine possesses a pronounced aftereffect, which increases with a higher dose of the drug. The altered parameters of evoked potentials under the impact of triptasine

stress the point that the level of excitation of the entire auditory analyzer and the rate of conductivity in afferent excitation increase. This permits correlation of the previously established paradoxical changes of conditioned reflex activity, appearing under the influence of triptasine in animals, with different individual traits and shifts toward pessimal values of the level of excitation of the functional system of conditioned reflexes. 27 references. (Journal abstract modified)

**113758 Chkhartishvili, B.V.** *Institut fiziologii Akademii nauk Gruzinskoy SSR, Tbilisi /Effect of puromycin and actinomycin-D injection into the mesencephalic reticular formation on the conditioned reflexes of animals./ Vliyaniye puromitsina i aktinomitsina-D, vvedennykh v mezentsenfalicheskuyu retikulyarnuyu formatsiyu na uslovnorefleksornuyu deyatel'nost' zhivotnykh. Soobshcheniya Akademii Nauk Gruzinskoy SSR (Tbilisi).* 63(1):181-183, 1971.

Experiments were carried out on cats with chronic cannulas implanted in various parts of the mesencephalic reticular formation. Injection of puromycin and actinomycin-D in small doses (10 and 8 micrograms, respectively) did not induce any change in behavior or of conditioned reflexes and delayed reaction. In addition to worsening of the general state of the animal, higher doses of puromycin and actinomycin-D (90 and 15 micrograms, respectively) caused impairment of food conditioned reflexes and delayed reactions (within 12 to 15 hours after injection), but conditioned avoidance was maintained. Doses of actinomycin-D and puromycin (20 to 25 and 30 to 40 micrograms, respectively) induced strong seizures which led to the death of the animals. It is concluded that the above changes result from general intoxication of the animals rather than blocking of protein synthesis. 5 references. (Journal abstract modified)

**114514 Hartmann, Ernest; Chung, Richard; Draskoczy, Paul R.; Schildkraut, Joseph J.** *Sleep and Dream Laboratory, 591 Morton Street, Boston, Massachusetts 02124 Effects of 6-hydroxydopamine on sleep in the rat. Nature (London).* 233(5319):425-427, 1971.

In a study of the effects of 6-hydroxydopamine on sleep in the rat it was confirmed that intracisternally administered 6-hydroxydopamine produces a marked decrease in concentrations of noradrenaline in rat brain, and this persists for 21

weeks. The increased desynchronized sleep (D) after 6-hydroxydopamine is consistent with findings of increased D in conditions characterized by decreased catecholamines in the brain. Preliminary findings suggest that 6-hydroxydopamine may produce a long-lasting decrease in levels of serotonin particularly in the hypothalamus. 6-Hydroxydopamine seems to increase both number and length of D but there is a much more prominent effect on the latter, suggesting that the mechanism controlling the length of D may be particularly influenced by catecholamines. The fact that total synchronized sleep was almost exactly equal in the control and experimental animals suggests that it may not be affected by brain catecholamines. The data suggest that the catecholamines particularly affect the relative amounts of time spent in waking and D. This would be consistent with the finding that agents such as amphetamines or the monoamine oxidase inhibitors, which increase concentrations or availability of catecholamines, produce decreased D and increased waking in several species. A biological function of D may be to increase the synthesis or availability of catecholamines or to increase sensitivity of catecholamine receptors. This in turn may have a role in maintaining wakefulness or certain aspects of wakefulness. 27 references. (Author abstract modified)

**114515** Campbell, Byron A.; Fibiger, Hans C. Department of Psychology, Princeton University, Princeton, New Jersey 08540 Potentiation of amphetamine-induced arousal by starvation. *Nature (London)*. 233(5319):424-425, 1971.

Rats were deprived of food and also treated with amphetamine in order to determine the effects of behavioral arousal. There is a substantial change in responsiveness to d-amphetamine during starvation. The arousal inducing properties of starvation interact in a supra-additive summative manner with amphetamine induced behavioral arousal. The mechanism responsible for the summative interaction of amphetamine and starvation is not known. It is possible that the present results have their basis in an impaired metabolism of amphetamine during starvation. There has also been considerable work on the effects of stress on central biogenic amines. Food deprivation is obviously a highly stressful experience. The increased sympathetic activity during hypoglycemia is consistent with this model. Stress significantly

alters absolute concentrations, rates of synthesis and release of biogenic amines in the brain. Furthermore, amphetamine toxicity is increased by some forms of stress. Together these findings indicate that the mode of action of amphetamine and the central biogenic amines through which it is thought to exert its action may be changed in the central nervous system during stress. To the extent that starvation is a stressor, our results may be a reflexion of central neurochemical changes which occur during stress. In psychopharmacological research, the nutritive state of the animal is of considerable importance in determining the magnitude and the nature of the drug response. 15 references.

**117025** Guerrero-Figueroa, Roberto; Gallant, Donald M. Department of Psychiatry and Neurology, Tulane University School of Medicine, New Orleans, LA Electrophysiological study of the action of a new benzodiazepine derivative (ORF-8063) on the central nervous system. *Current Therapeutic Research*. 13(12):747-758, 1971.

The electrophysiological effects of a new benzodiazepine derivative, 1-methyl-5-phenyl-7-trifluoro-methyl-1H-1,5-benzodiazepine-2, 4-(3H,5H)-dione (ORF-8063), on spontaneous and local evoked activities recorded from subcortical and cortical central nervous system structures of normal and epileptic conscious and freely moving cats and monkeys were studied. Oral administration of ORF-8063 and diazepam produced a diminution in the amplitude of the local evoked potentials (LEP) recorded from the aversive behavior structures in association with an augmentation in the amplitude of the LEP recorded from the rewarding behavior structures. Both benzodiazepine compounds produced a weak inhibitory action on primary and secondary epileptiform discharges generated from subcortical or cortical primary and secondary epileptogenic tissues. Parenteral administration of either compound produced a marked diminution in the amplitude of the LEP recorded from both the aversive and rewarding structures in association with a slight diminution in the amplitude of the secondary component of the LEP recorded from the cortical areas. Both agents, by parenteral route, suppressed secondary subcortical and cortical epileptiform discharges and weakly inhibited subcortical primary epileptiform discharges without significant effect on cortical primary epileptiform discharges. At lowest and highest effective

dosages, both compounds increased synchronization, slowing, and amplitude of voltage of spontaneous EEG activity recorded from the subcortical structures. 25 references. (Author abstract modified)

117747 Iwahara, Shinkuro. Dept. of Psychology, Tokyo Univ. of Education, Tokyo, Japan Effects of drug-state changes upon two-way shuttle avoidance responses in rats, treated with chlordiazepoxide or placebo. *Japanese Psychological Research (Tokyo)*. 13(4):207-218, 1971.

The effects of drug state changes upon two-way shuttle avoidance responses was studied in rats treated with chlordiazepoxide (D) or placebo (N). Rats were trained 15 trials per day to avoid electric shock in a shuttle box to a criterion either under D or under N. Reaching the criterion, some Ss, immediately, and others, after overtraining, were trained to the same criterion under the shifted drug condition. The drug state was further changed twice with no other procedural differences. Results indicated a faster acquisition of the avoidance response and a marked increase in intertrial responding (ITR), which were explained by the drug's disinhibition effect rather than by its possible fear reducing action. As in previous studies, drug learning dissociation was more marked with the D to N shift than with the reverse shift, and this state dependency was somewhat weakened for overlearned behavior and clearly reduced in the second and the third shifting. ITR was not state dependent. 17 references. (Author abstract modified)

119690 Lossner, B.; Matthies, H. Institut für Pharmakologie und Toxikologie der Medizinischen Akademie, Magdeburg, Germany /Effect of intraventricularly applied sodium orotate on a conditioned avoidance response of the rat./ Die Wirksamkeit intraventrikular applizierten Na-Orotats auf eine bedingte Fluchtreaktion der Ratte. *Acta biologica et medica Germanica*. 27(1):221-224, 1971.

A study is described in which a single intraventricular application of 100 micrograms of sodium orotate 4 hours before training improves acquisition and retention of a conditioned avoidance response in the rat. Intraventricular injection apparently results in greater transformation of orotic acid into nucleotide phosphates by bypassing the blood - cerebral barrier.

119691 Ueda, I.; Kohama, A.; Jordan, W. S.; Graves, C. L. Div. of Anesthesiology, Univ. of Utah, College of Medicine, Salt Lake City, Utah 84112 Reversal of chlorpromazine-induced hypotension by calcium chloride in dogs. *Pharmacology*. 5(5):257-263, 1971.

The reversal of chlorpromazine induced hypotension by calcium chloride in dogs is reported. A dose of chlorpromazine 25mg/kg given in 10 min lowered the mean femoral arterial pressure 60% during pentobarbital anesthesia and 70% during methoxyflurane anesthesia. Calcium chloride 0.2mEq/kg given in 10 min reversed the hypotension to the control value with both anesthetics. Calcium had no significant effect on heart rate, stroke volume, cardiac output or ECG. Reversal of hypotension was found to be primarily the result of an increase of total peripheral resistance. 21 references. (Author abstract modified)

119914 Delbarre, Bernard; Blancheteau, Marc; Moret, Annette. author address not given Modification of an operant conditioning in rat after a subcutaneous injection of histamine. *Comptes Rendus de Seances de la Societe de Biologie et des Ses Filiales*. 165(3):676-679, 1971.

Injection of histamine in conditioned rats caused a regression at the earliest stage in the acquisition of behavior. 8 references. (Journal abstract modified)

120818 Estler, C. J. Pharmakologisches Institut der Universität Erlangen-Nürnberg, Universitätsstrasse, 22, D-8520 Erlangen, Germany Physical performance of mice treated with propranolol, sotalol and INPEA. *Journal of Pharmacy and Pharmacology (London)*. 23(9):714-715, 1971.

Behavioral effects of three adrenergic beta-receptor blocking drugs on mice are described. Propranolol, sotalol, or INPEA (5-25micrograms/gm) did not alter spontaneous motor activity; but INPEA at 100micrograms/gm increased motility 60-230%. Orientational hypermotility was depressed by propranolol or sotalol (25micrograms/gm); sotalol at 0.05-0.2micrograms/gm slightly increased hypermotility; INPEA had no effect. Propranolol or sotalol had no effect on the sloping plane test or the traction test. INPEA (100micrograms/gm) slightly impaired animal activity in the sloping plane test and gave negative results in the traction test. 5 references.

**120960** Cole, Sherwood O.; Gay, Patricia E. Department of Psychology, Rutgers University, Camden, NJ 08102 Interaction of amphetamine and food deprivation on a food-motivated operant. *Communications in Behavioral Biology*. 6(5-6):345-347, 1971.

Independent groups of male rats were administered a single 20 min operant session of continuous reinforcement under one of nine combined conditions of amphetamine (0, 0.5, 1.0mg/kg) and food deprivation (0, 24, 48 hour) to determine the interaction of amphetamine and food deprivation on a food motivated operant. Analysis of results demonstrated a significant drug effect, a significant deprivation effect, and a significant drug X deprivation interaction of total bar presses and pressing rate during first and second halves of the session. It is concluded that the interaction of amphetamine and food deprivation can be demonstrated with operant and nonoperant performance. 4 references. (Author abstract)

**120964** Singer, G.; Sanghvi, I.; Gershon, S. School of Behavioral Sciences, Macquarie University, North Ryde, N.S.W. 2113, Australia Exploration of certain behavioral patterns induced by psychoactive agents in the rat. *Communications in Behavioral Biology*. 6(5-6):307-314, 1971.

In an attempt to use certain behavioral patterns of the white rat as a model for screening psychoactive drugs, effects of yohimbine, 5-hydroxytryptophan (5-HTP) and amphetamine were examined on eating, drinking, and other behavioral modalities following 22 hour deprivation. All three agents, on acute administration, produced anorexia which was dependent on the dose and route of administration. They did not produce any significant effect on water intake. Following hypothalamic and intraventricular administration, both yohimbine and 5-HTP produced anorexia but the magnitude of their effect was smaller than after intraperitoneal injection. Methysergide, a serotonin antagonist, failed to antagonize the anorectic effects of 5-HTP or amphetamine, but partially antagonized the anorectic effect of yohimbine. Imipramine pretreatment markedly augmented the anorectic effect of yohimbine. Behaviorally, yohimbine induced crouching, lying, and abduction in the test subjects whereas amphetamine produced rearing, standing, and in higher doses, stereotype. Amphetamine partially antagonized the above

behavioral effects of yohimbine. Haloperidol, a dopamine antagonist, failed to modify the effects of yohimbine on eating or other behavioral modalities. Imipramine accentuated the behavioral effects of yohimbine. Yohimbine was found to raise the serotonin levels in midbrain and certain forebrain structures. Agents like yohimbine, imipramine, 5-HTP and the amphetamine type stimulants can be differentiated on certain behavioral modalities in the rat. However, eating and drinking responses do not afford reliable indices for use as a drug induced behavioral state compared to a similar experimental model in the dog. 19 references. (Author abstract modified)

**120966** Cole, J. M.; Pieper, W. A.; Rumbaugh, D. M. Yerkes Regional Primate Research Center, Emory University, Atlanta, GA 30322 Effects of delta (9)-tetrahydrocannabinol on spaced responding in great apes. *Communications in Behavioral Biology*. 6(5-6):285-293, 1971.

Three great apes were administered delta(9)-tetrahydrocannabinol via smoking. Drug versus nondrug cigarettes were received on alternate daily sessions. Immediately following drug treatment subjects were given a 30 minute test session on a schedule using differential reinforcement for low rates of responding. The delta(9)-tetrahydrocannabinol was found to result in the subjects receiving fewer reinforcements per session, having reduced efficiency, and having inter-response time distributions that were shifted toward shorter durations. Total responses emitted per session showed that one subject made consistently more responses following drug administration, a second subject showed a similar but less marked trend, and the third subject showed no reliable difference between drug and control sessions. 16 references. (Author abstract)

**121428** Brun, Rene. no address /Pharmacological treatments for personality disorders./ Les moyens pharmacologiques de l'équilibre personnel. *Caractérologie (Paris)*. 12:199-209, 1971.

A review of psychopharmacological indications in the treatment of personality disorders reveals that administration of meprobamate is indicated for slight conditions, while neuroleptic agents should be used for the correction of aggression. In cases of depression, diazepam derivatives or monoamineoxidase inhibitors are indicated. Diazepam induces disinhibition and euphoria. While the benefits to be drawn from psychotropic

medication are certain, their indiscriminate use without taking the psychological and personality human factor into consideration is harmful. A combination of psychopharmacology and psychiatric assistance is recommended. 8 references.

**122545 Pinder, R.M.; Buxton, D.A.; Green, D.M.** Chemical Defence Establishment, Porton Down, Salisbury, Wiltshire, England On the dopamine-like action of apomorphine. *Journal of Pharmacy and Pharmacology (London)*. 23(12):995-996, 1971.

The dopamine like action of apomorphine was examined in rats. Gnawing was measured before drug treatment. Apomorphine hydrochloride consistently produced a syndrome of stereotyped licking accompanied by periods of gnawing, in both normal and iproniazid pretreated rats. Apomorphine, tetrahydroisoquinoline, N-methyl-tetrahydroisoquinoline and phenethylamine produced no gnawing or licking movements. The five compounds were also compared with dopamine for depressor effects on the blood pressure of urethanized rabbits. Apomorphine was twice as potent as dopamine with one fifth the potency of dopamine. It is thought that if apomorphine, in producing dopamine like effects, acts on dopamine receptors then it does so in a way which intimately involves the dihydroxy-tetrahydroaminaphthalene moiety. 13 references.

**123270 Hallasmoller, T.; Vizi, E.S.; Knoll, J.** Department of Pharmacology, Semmelweis Medical University, Budapest, Hungary Cross-tolerance between p-methoxyphenylethylamine (PMEA), 3, 4-demethoxyphenylethylamine (DMPEA) and p-bromomethoamphetamine (PBMA, V111). *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):21, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, the behavioral effects of 3, 4-dimethylphenylethylamine (DMPEA) and p-methoxyphenylethylamine (PMEA) both substituted in para position administered to rats were reported. Both compounds exerted an inhibitory effect on escape behavior of the rat, in the modified jumping test. ED50 for DMPEA is 150mg/kg and for PMPEA 45mg/kg. However these values were reduced when the animals were pretreated with iproniazid. PBMA (15mg/kg for 14 days) which otherwise reduced the 5-HT content of rat brain by 60% was able to prevent the inhibitory effect of DMPEA

and PMPEA on escape behavior, and these was now seen an excitatory effect. The LD50 values were not changed. p-Chlorophenylalanine (100mg/kg for three days) also prevented the effect of DMPEA and PMPEA on escape behavior. Author abstract)

**123275 Pederson, V.; Christensen, A.V.** Department of Pharmacology, H.Lundbeck & Co.A/S, Copenhagen, Denmark Methylphenidate antagonism in mice as a rapid screening test for neuroleptic drugs. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):44, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, a study of the gnaw - compulsion syndrome in mice pretreated with H 44/68 (d,l-alpha-methyltyrosine-methylester hydrochloride) was reported. H 44/68 completely abolished the compulsive gnawing. L-Dopa completely reactivated the mice pretreated with H 44/68. Furthermore it was shown that pretreatment with sodium diethyldithiocarbamate hardly affected the compulsive gnawing. The results indicate that the effect of methylphenidate is dependent on the presence of dopamine. A number of neuroleptics was tested for antagonistic effect and the following order of decreasing potency was obtained: fluphenazine; haloperidol; flupenthixol; clopenthixol; chlorprothixene; chlorpromazine. The methylphenidate antagonism test seems to be a rapid and reliable method for classification of neuroleptic compounds. (Author abstract)

**123276 Meyerson, B.J.; Nordstrom, E.B.; Agmo, A.** Department of Pharmacology, University of Uppsala, Sweden Sexual behaviour and testosterone in the female rat. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):38, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, the ability of testosterone propionate (TP) to activate sexual motivation (the urge to seek sexual contact) and mating behavior (lordosis response on mounting by a male) in the female rat, ovariectomized as adult was reported. Sexual motivation was measured as the willingness of the animal to bear a painful stimulus (electric grid) to reach contact with a sexually active stimulus animal. The experiments were performed one run a day for 16 consecutive days starting one day before hormone treatment. TP significantly increased the number of grid crossings when the incentive animal was a

male. The maximal response was seen five days after TP treatment. A similar effect was obtained if the stimulus animal was a sexually active female but the urge to seek contact was significantly higher when the incentive was a male. Mating behavior was possible to activate by TP followed 48 hours later by progesterone. Tests were performed 4-8 hrs after the progesterone treatment. TP alone was not effective. The optimal time interval between TP and progesterone was 48-72 hrs. The possibility that TP is metabolized to estrogen to exert the effect on the female sexual behavior is indicated by the fact that the anti-estrogen ethamoxypriphetol inhibited the TP/progesterone activated mating behavior. (Author abstract)

123639 Dissinger, M.L.; Carr, W.J. Rider College, Trenton, NJ 08602 Effects of tertiary vs quaternary scopolamine on water and air drinking in rats. *Psychonomic Science*. 25(1):17-18, 1971.

The regulation of water balance by central mechanisms and/or peripheral mechanisms was studied in ra rats and the effects of three specific compounds upon water vs air drinking were compared. Nine thirsty rats were allowed to water drink or air drink for one hour beginning 30 minutes after receiving injections of scopolamine hydrochloride, scopolamine methylnitrate, or physiological saline. Analysis of observed behavior showed that both forms of scopolamine suppressed water and air drinking, relative to performance under the saline control, and that scopolamine hydrochloride suppressed both water and air drinking more than did scopolamine methylnitrate. Further research must be done on differentiating the central from the peripheral mechanisms in water regulation. 10 references. (Author abstract modified)

124107 del Rio, Joaquin. Department of Medicinal Chemistry, Institute of Organic Chemistry, C.S.I.C., Calle Juan de la Cierva, 3 Madrid 6, Spain Facilitating effects of some chlorpromazine-D-amphetamine mixtures on avoidance learning. *Psychopharmacologia (Berlin)*. 21(1):39-48, 1971.

The effects of several chlorpromazine-D-amphetamine mixtures on discriminated avoidance learning in rats have been studied and compared with the effects of D-amphetamine alone. It has been found that some of these mixtures increase shock avoidance very significantly. The different mixtures cannot be compared on the basis of the

same dose ratio, but some of the observed effects can probably be explained in terms of more or less sustained brain levels of D-amphetamine. The combined treatment of 1mg/kg chlorpromazine and 1mg/kg D-amphetamine is one of the most effective and an increase of conditioned responses and a decrease of interresponses is observed in this group as compared with the corresponding D-amphetamine 1mg/kg group. The significance of these findings and the possible sources of this especial behavioral interaction of the two drugs are discussed. 30 references. (Author abstract)

124108 Vogel, John R.; Beer, Bernard; Clody, Donald E. Department of Pharmacology, The Squibb Institute for Medical Research, New Brunswick, NJ A simple and reliable conflict procedure for testing anti-anxiety agents. *Psychopharmacologia (Berlin)*. 21(1):1-7, 1971.

The effects of three benzodiazepines (chlordiazepoxide, diazepam, and oxazepam), meprobamate, pentobarbital, D-amphetamine sulfate, magnesium pemoline, and scopolamine hydrobromide were studied with a simple conflict procedure in which thirsty naive rats were periodically administered shocks for licking water. The results indicated that this simple procedure clearly demonstrated antianxiety (i.e., increases in punished responding) effects with benzodiazepines, meprobamate and pentobarbital. Doses of D-amphetamine sulfate, magnesium pemoline, and scopolamine hydrobromide did not increase responding. 9 references. (Author abstract)

125164 Vogel, John R.; Principi, Kathy. Department of Pharmacology, The Squibb Institute for Medical Research, New Brunswick, NJ Effects of chlordiazepoxide on depressed performance after reward reduction. *Psychopharmacologia (Berlin)*. 21(1):8-12, 1971.

The effects of chlordiazepoxide on depressed performance after reward reduction was studied in rats. Hungry rats were trained to lick either 4% or 32% sucrose solutions. When rats were shifted from the 32% to the 4% solution, depressed performance (relative to control groups) was observed. A single dose of chlordiazepoxide (8mg/kg) reversed the depression, but did not affect licking rates in control rats. When the drug was withdrawn, the depression reappeared. These data are discussed in terms of the possible effects of chlordiazepoxide on behavior that has been suppressed. 18 references. (Author abstract)

125165 Larsson, Knut; Sodersten, Per. Newark College of Arts and Sciences, Rutgers Univ., Institute of Animal Behavior, 101 Warren St., Newark, NJ 07102 Lordosis behavior in male rats treated with estrogen in combination with tetrabenazine and nialamide. *Psychopharmacologia (Berlin)*. 21(1):13-16, 1971.

Lordosis behavior in male rats treated with estrogen in combination with tetrabenazine and Nialamide was examined. Injection of 10mg/kg tetrabenazine in castrated male rats, treated with daily injections of 50micrograms/kg estradiol benzoate, resulted in lordosis behavior in the majority of the animals. Nialamide (50mg/kg) antagonized the effect of tetrabenazine. It was suggested that the occurrence of the lordosis pattern in estrogen pretreated rats is related to levels of monoamines. 10 references. (Author abstract)

125167 Weissman, Albert. Pfizer Inc., Eastern Point Road, Groton, CT 06340 Cliff jumping in rats after intravenous treatment with apomorphine. *Psychopharmacologia (Berlin)*. 21(1):60-65, 1971.

Cliff jumping in rats after intravenous treatment with apomorphine was studied. This stereotyped behavior is seen to a lesser extent after morphine, and after combined treatment with desmethylinipramine plus tetrabenazine. Dopa is inactive, whether given alone or in the presence of either a monoamine oxidase inhibitor or a peripherally acting decarboxylase inhibitor. Amphetamine is also inactive. Although stereotyped cliff jumping behavior after apomorphine may reflect a stimulant effect on dopamine receptors in brain, such a mechanism is insufficient to account for results from the other drugs tested. 14 references. (Author abstract)

125242 Kayan, Sabih. University of Iowa Studies on morphine demonstrating the phenomena of pharmacologic tolerance, behavioral tolerance and behavioral habituation. (Ph.D. dissertation). *Dissertation Abstracts International*. Ann Arbor, MI, Univ.M-films, No.72-17571 HC\$10.00 MF\$4.00 93 p.

The phenomena of pharmacologic tolerance, behavioral tolerance, and behavioral habituation in animals as a result of morphine administration were investigated. The results indicate that: 1) behavioral habituation as well as behavioral and pharmacologic tolerance can develop to the analgesic effect of morphine; 2) the interval between the tests is an important factor in the development of both behavioral habituation and

behavioral tolerance; 3) behavioral tolerance can develop as early as 30 minutes after morphine and last up to four weeks following a single dose; 4) pharmacologic tolerance develops less rapidly than behavioral tolerance and is influenced both by the frequency of administration and by the magnitude of the dose; 5) pharmacologic tolerance is not detectable after a single morphine dose (5 or 10 mg/kg). A mechanistic scheme extending the enzyme expansion theory of drug tolerance and physical dependence to accommodate the phenomena of behavioral habituation and behavioral tolerance as well as pharmacologic tolerance is offered. It is concluded that the phenomena of behavioral habituation and behavioral tolerance must be considered and must be distinguished from that of pharmacologic tolerance in studies designed to delineate the mechanism responsible for tolerance development to morphine. (Journal abstract modified)

125247 Barnett, A.; Mallick, J.B.; Taber, R.I. Department of Pharmacology, Biological Research Division, Schering Corporation, Bloomfield, NJ 07003 Effects of antihistamines on isolation-induced fighting in mice. *Psychopharmacologia (Berlin)*. 19(4):359-365, 1971.

A series of antihistamines representing many structural types and pharmacological spectra antagonized isolation induced fighting in mice. Antagonism of fighting by these compounds was correlated with anticholinergic potency as measured by prevention of physostigmine induced lethality but did not correlate with antihistaminic or antitetrabenazine potency. Antagonism of fighting was not related to effects of these drugs on spontaneous motor activity. 11 references. (Author abstract)

125250 Uyeno, Edward T. Stanford Research Institute, Menlo Park, CA 94025 Relative potency of amphetamine derivatives and N, N-demethyltryptamines. *Psychopharmacologia (Berlin)*. 19(4):381-387, 1971.

The relative potency of amphetamine derivatives and N,N-dimethyltryptamine (DMT) derivatives was evaluated in rats trained to swim through an underwater tube in order to escape at the other end of the tank. All of the compounds tested significantly increased the starting latency. The time of peak effect of 2,5-dimethoxy-4-ethylamphetamine (DOET), 2,5-dimethoxy-4-methylamphetamine (DOM), and 6-hydroxy-DMT was

estimated at 40 min after the intraperitoneal injection and that of DMT, 4-methoxy-DMT, and psilocybin was 20 min. Dose response curves showed that the increase in the latency was dose dependent. The descending rank order of potency of the compounds, according to the median effective dose was: DOET, psilocybin, DOM, DMT, 4-methoxy-DMT, and 6-hydroxy-DMT. 12 references. (Author abstract)

**125251 Masur, Jandira; Martz, Regina M.W.; Carlini, E.A.** Departamento de Ciencias Fisiologicas, Faculdade de Ciencias Medicas da Santa Casa, Rua Cesario Motto Jr., 112, Sao Paulo, Brazil Effects of acute and chronic administration of cannabis sativa and (-)delta9-trans-tetrahydrocannabinol on the behavior of rats in an open-field arena. *Psychopharmacologia (Berlin)*. 19(4):388-397, 1971.

The effects of acute and chronic administration of delta9-THC, cannabis extract and control solution on the behavior of rats repeatedly exposed to an open field arena have been studied. After the first dose both delta9-THC and cannabis extract significantly decreased defecation, grooming and rearing; ambulation was not affected. After 20 injections of both marihuana compounds the rats showed values for defecation, grooming and rearing near to those obtained during the predrug phase; control rats, however, showed a significant decrease in these parameters indicating habituation to the open field. The results are discussed in terms of effects of marihuana on emotional behavior of rats. 30 references. (Author abstract)

**125253 Iwahara, Shinkuro; Matsushita, Kazuyo.** Department of Psychology, Tokyo University of Education, 3-29-1 Otsuka, Tokyo, Japan 112 Effects of drug-state changes upon black-white discrimination learning in rats. *Psychopharmacologia (Berlin)*. 19(4):347-358, 1971.

The effects of drug state changes upon black-white discrimination learning in rats was studied. Rats were trained on a black-white discrimination task, being motivated by electric shock. After reaching a criterion of 18 out of 20 correct responses in the original discrimination learning (L1), the same discrimination learning was repeated twice (L2 and L3) to the same criterion. Rats were exposed to either a drug induced state (20mg/kg) chlordiazepoxide (CDP) or an undrugged state (saline) at each stage of discrimination learning. CDP was generally found to retard the discrimination learning both in terms of cor-

rect responses and of running times, although the latter effect was more immediate. A shift in drug state produced a decrease in the percentage of correct responses and this effect was quantitatively about the same whether responses had been overlearned (L3) or not (L2). The same dissociative effect was not found in L3 for those rats which had previously been trained in both drug states. Contrary to some previous studies, running times were not state dependent. 11 references. (Author abstract)

**125410 Berger, Harvey J.** Dept. of Biology, Colgate Univ., Hamilton, NY 13346 Separation of the effects of magnesium pemoline on avoidance learning and memory from its central nervous system stimulant properties by chlordiazepoxide. *Proceedings of the Society for Experimental Biology and Medicine*. 138(2):591-596, 1971.

A separation of the effects of magnesium pemoline on avoidance learning and memory from its central nervous system stimulant properties by chlordiazepoxide and magnesium pemoline was studied in rats. Magnesium pemoline (20mg/kg, ip) was found to enhance the acquisition and retention of a double T-maze in male Swiss-Webster mice when administered 25 min prior to training or from 1 to 180 min posttrial. The general stimulant action of magnesium pemoline was completely abolished by pretreatment with chlordiazepoxide (15mg/kg, sc), although the mice still showed enhanced memory of the avoidance task. These data suggest that the nonspecific arousal associated with magnesium pemoline is not responsible for the demonstrated effects upon avoidance learning and memory. 17 references. (Author abstract modified)

## 05 TOXICOLOGY AND SIDE EFFECTS

**073485 Dewsbury, Donald A.** University of Florida, Gainesville, Fla. 32601 Copulatory behavior of male rats following reserpine administration. *Psychonomic Science*. 22(3):177-179, 1971.

Two experiments were conducted further to specify the effects of reserpine on copulatory behavior in male rats. In experiment 1, multiple doses of 0.5mg/kg reserpine produced significant reductions in the number of intromissions required to attain ejaculation, as well as changes in 2 other measures. In experiment 2, intromission frequency in the second series was reduced following a single injection of 1.0mg/kg reserpine.

Data from experiments on reserpine reveal a specific facilitatory effect on intromission frequency, which is consistent with the hypothesis that high brain monoamine level inhibits ejaculation. 18 references. (Author abstract)

073494 Wood, Charles D. Dept. of Pharmacology and Therapeutics, LSU School of Medicine, Shreveport, Louisiana 71101 The influence of selective temporal lobe damage on behavior and the response to lysergic acid diethylamide. *Journal of the Louisiana State Medical Society*. 123(3):95-98, 1971.

The results reported indicate that the response to an hallucinogenic drug (LSD) can be altered by destruction of areas of the brain known to influence behavior. Bilateral lesions limited to the basolateral division of the amygdaloid complex eliminated the emotional response to LSD in cats. Bilateral lesions in the cortico - medial division of the amygdaloid complex and all unilateral lesions left the response to LSD unaltered. It is suggested that psychotic activity in humans resulting from a metabolic defect might be greatly altered by preexisting minimal brain damage in areas known to influence behavior. The amygdala does not appear to be the chief site of the LSD response as direct injections into this area failed to give the same response as the intraperitoneal injections. 12 references. (Author abstract)

086647 Svestka, J.; Rodova, A. Psychiatricka klinika lekárske fakulty UJEP, Brno, Czechoslovakia /Toxic and undesirable treatment effects with lithium in psychiatry./ Toxické a nežádoucí projevy léčby lithiem v psychiatrii. *Praktický Lékař (Praha)*. 51(4):134-137, 1971.

Side-effects mostly of a temporary nature and of a minor degree were observed to occur in 77% of patients treated with lithium. Lithium therapy of epileptics can lead to paroxysms. Lithium does not seem to be a contributory factor in the triggering of thromboembolic accidents as is the case in neuroleptic therapy. Toxic symptoms among a group of 91 treated patients appeared in 22% between the 8th and 675th day of therapy at different serum lithium levels. The toxic serum threshold level lies lower than the hitherto accepted level of 1.6 to 2 mval/l. Severe intoxications occurred already at a 1.45 mval/l serum level. Periodic laboratory and clinical tests are mandatory, the patients and their relatives should be made aware of the nature of prodromal symp-

toms. There is no great leeway between optimal and toxic doses but the therapy should, where indicated be instituted in spite of the risk. 20 references.

087119 Lagerspetz, Karl Y.; Lagerspetz, Kirsti M. J. Department of Zoology, University of Turku, 20500 Turku 50, Finland Amphetamine toxicity in genetically aggressive and non-aggressive mice. *Journal of Pharmacy and Pharmacology (London)*. 23(7):542-543, 1971.

Mice bred selectively for aggressiveness or nonaggressiveness were tested to determine whether increased amphetamine toxicity is invariably associated with aggressiveness, or whether it is an outcome of isolation only and thus not a necessary condition of aggressiveness. One group of mice were isolated after weaning and reared in isolation, while the other group lived together with their male siblings. Both groups received from 29 to 85mg/kg (+)-amphetamine. The LD50 values were 58 and 59mg/kg for the isolated animals of the 2 strains and 69 and 68mg/kg for the grouped animals. The genetically aggressive and nonaggressive mice showed no overt aggressive behavior and an equal amphetamine toxicity when reared in groups. When reared in isolation, the aggressiveness is increased much more in mice of the aggressive strain, but amphetamine toxicity is increased to the same degree in both strains. Thus, high amphetamine toxicity is not invariably linked with high aggressiveness in mice. 12 references.

088625 Phillips, Richard N.; Turk, Robert F.; Forney, Robert B. Department of Pharmacology and Toxicology, Indiana University School of Medicine, Indianapolis, Indiana 46202 Acute toxicity of delta-9-tetrahydrocannabinol in rats and mice. *Proceedings of the Society for Experimental Biology and Medicine*. 136(1):260-263, 1971.

Crude Thailand marihuana was extracted by the method of Turk. Initial purity of the delta-9-tetrahydrocannabinol (THC) after extraction was 99+% as determined by nuclear magnetic resonance, mass spectroscopy, and gas - liquid chromatography. Purity of the compound prior to administration was unchanged as determined by gas - liquid chromatography. Using 10% Tween 80 as a suspension vehicle, LD50 values were determined in rats and mice. Values obtained were: rat, iv, 28.6mg/kg; ip, 372.9mg/kg; ig, 666.1mg/kg; mouse, iv, 42.47mg/kg; ip, 454.5mg/kg; ig,

481.9mg/kg. Toxic signs preceding death in both animal species included ataxia, hyperexcitability, depression, loss of righting reflex and dyspnea progressing to apnea. Following intravenous administration in rats or mice, death occurred within 15 min whereas following intraperitoneal or intragastric administration, death resulted between 10 and 36 hr. Tremor, diarrhea, and lacrimation were observed as additional toxic signs following ig and ip administration of THC in rats. Diarrhea was an additional toxic sign observed following ig and ip injections in mice and a Straub-tail was noted only after iv administration in mice. 17 references. (author abstract modified)

**089286** Hart, Nathan H.; Greene, Michael. Department of Zoology, Rutgers University, New Brunswick, New Jersey 08903 LSD: teratogenic action in chick blastoderms. *Proceedings of the Society for Experimental Biology and Medicine*. 137(2):371-373, 1971.

The potential for LSD to cause teratogenesis was investigated in chick embryos. Blastoderms at Hamburger and Hamilton stage 8-8+ were cultured in vitro on 1 ml aliquots of medium containing either 50 or 100 microg of lysergic acid diethylamide. Following 20 hr incubation, drug treated embryos failed to demonstrate any increase in mortality or growth depressing effects. At both dose levels, however, disturbances were observed in fusion of the neural folds. A significant reduction in the mean number of somites per embryo was observed in embryos exposed to 50 microg of LSD. 11 references. (author abstract modified)

**093082** Thompson, G. R.; Schaeppi, Ulrich H.; Rosenkrantz, Harris; Braude, Monique C. National Institute of Mental Health, Bethesda, Maryland 20014 Acute oral toxicity of cannabinoids in various species (Unpublished paper). Chevy Chase, Maryland, NIMH, 1971. 7 p.

Studies on acute oral toxicity of cannabinoids in various species are reported. The various forms of marihuana preparations that have been used and abused are reviewed and the toxicities are related to chemical formulae. Gas chromatographic analysis of crude marihuana extract (CME) reveals a number of constituents. The median lethal dose (LD50) levels for rats of the various tetrahydrocannabinols (THC) and CME are presented. It is calculated that the LD50 levels in rats are approximately 500 to 1000 times the ef-

fective oral doses in humans. Factors affecting the temporal pattern of rat mortalities are discussed. Procedure used for the oral treatment of beagles and rhesus monkeys is summarized. Behavioral and other changes produced by delta 9-THC and delta 8-THC and CME are reported and species specificity of reactions are discussed. Histopathology and physiological changes in dogs, monkeys and rats, as related to toxicity in the 3 species, are discussed. Observations in all 3 species indicated that delta 9-THC was more potent than delta 8-THC, and both compounds were more potent than CME.

**093551** Braude, Monique C. National Institute of Mental Health, Chevy Chase, Maryland Toxicology and teratology of marihuana and constituents (Unpublished paper). Chevy Chase, Maryland, NIMH, 1971. 1 p.

Preclinical investigation of the toxicity of the tetrahydrocannabinols (delta-9-THC, delta-8-THC and cannabis extract) indicate that the safety of these compounds in animals is high, as the lethal doses are more than 10 to 20 times greater than the reported pharmacologically active doses. Single dose toxicity studies in rats show that the lethal dose in 50% of animals, i.e. the LD50 for delta-9-THC is between 20 to 40 mg/kg by intravenous injection and between 800 to 1400 mg/kg orally depending on sex and species. In dogs and monkeys the margin of safety was even greater than in rodents and single oral doses of delta-9-THC as high as 525 mg/kg (dogs) and 1050 mg/kg (monkeys) were nonlethal. Toxicity increases with dose and death is preceded by ataxia, tremors, severe hypothermia and prostration. There was more salivation and emesis in dogs and more hyperreactivity to stimuli and a characteristic huddle posture in monkeys. With equal doses (in mg/kg) of the 3 compounds, the extent and severity of clinical signs followed the pattern: delta-9-THC is greater than delta-8-THC is greater than cannabis extract. Tolerance to cannabinoids in man is debated. Some evidence is available to suggest presence of tolerance in other cultures, at least in very heavy chronic users of potent preparations. In this country, the differences in subjective psychoactive effects and performance decrements noted between naive or casual users and heavy marihuana smokers may be related to tolerance. (Author abstract modified)

094253 Goldstein, Dora B.; Pal, Nandita. Dept. of Pharmacology, Stanford University School of Medicine, Stanford, California 94305 Comparison of pyrazole and 4-bromopyrazole as inhibitors of alcohol dehydrogenases: their potency, toxicity and duration of action in mice. *Journal of Pharmacology and Experimental Therapeutics*. 178(1):199-203, 1971.

Alcohol dehydrogenases of yeast and mouse liver differ in their relative sensitivity to inhibition by pyrazole and 4-bromopyrazole. Yeast alcohol dehydrogenase is relatively insensitive to 4-bromopyrazole. Both inhibit competitively with ethanol. Yeast alcohol dehydrogenase can be used for assay of blood alcohol in pyrazole treated mice. Mouse liver alcohol dehydrogenase is strongly inhibited by both compounds. Pyrazole has a half-life of about 10 hours and 4-bromopyrazole about 3 hours in mice, as estimated from alcohol elimination rates. The LD50 after single i.p. injections of pyrazole in mice is 7.9mmol/kg; for 4-bromopyrazole, 2.5mmol/kg. Thus the ratio of efficacy to toxicity is about the same for the 2 compounds, but 4-bromopyrazole has a shorter duration of action. 17 references.

094254 Nakamura, James; Mitchell, C. L. Dept. of Pharmacology, College of Medicine, University of Iowa, Iowa City, Iowa 52240 The effects of morphine, pentobarbital and chlorpromazine on bioelectrical potentials evoked in the brain stem of the cat by electrical stimulation of the gingiva and tooth pulp. *Journal of Pharmacology and Experimental Therapeutics*. 178(1):232-240, 1971.

The effects of morphine sulfate (1,2 and 4mg/kg), pentobarbital sodium (2.5, 5 and 10mg/kg), chlorpromazine hydrochloride (1, 2 and 4mg/kg) and saline (0.1, 0.2 and 0.4ml/kg) on the responses evoked from the central tegmental fasciculus, the dorsal tegmentum of the mesencephalon and the spinal trigeminal tract by gingival and tooth pulp stimulation were studied. In the central tegmental fasciculus, morphine had no significant effect on responses evoked by either type of stimulus. Pentobarbital and chlorpromazine significantly depressed both responses. In the dorsal tegmentum, both responses were significantly depressed by morphine, but this effect was not dose related. Pentobarbital significantly depressed both responses in a dose related manner. Chlorpromazine had no effect on the response elicited by gingival stimulation but depressed that produced by tooth pulp stimulation.

In the spinal trigeminal tract, morphine had no effect on the responses evoked by either mode of stimulation. Pentobarbital and chlorpromazine slightly depressed the responses. The responses in the spinal trigeminal tract increases with time in the absence of drug. Had saline not been used to monitor the stability of the preparation an incorrect interpretation would have been placed on the results obtained with the recordings from the spinal trigeminal tract. The proper assessment of drug effects on bioelectrical responses is impossible without this control. 19 references. (Author abstract)

098294 Liebmann, H.; Matthies, H.; Kumbler, E. Institut für Pharmakologie und Toxikologie, Medizinische Akademie, Magdeburg, German Democratic Republic /The influence of phenelzine on the toxicity of cholinergic drugs modified by reserpine./ Der Einfluss von Phenelzin auf die durch Reserpin veränderte Toxizität cholinergischer Pharmaka. *Acta Biologica et Medica Germanica (Magdeburg)*. 26(3):551-558, 1971.

Preceding works have revealed that reserpine modifies the toxicity of cholinergic drugs in mice, bringing up for discussion the influence of the adrenergic nervous system on the cholinergic nervous system. Since monoamine oxidase inhibitors can offset the action of reserpine, the present work investigates the influence of phenelzine (20mg/kg) on the toxicity of cholinergic drugs modified by reserpine. The results give unequivocal evidence that treatment with phenelzine can balance modified toxicity. Galanthamine and paraoxon also have been used as choline esterase inhibitors. Under 5mg/kg reserpine, the two substances failed to produce changes in toxicity which would be comparable to physostigmin, prostigmin and DFP. The LD50 of paraoxon is almost unaffected by reserpine. The results are discussed in view of the role of the adrenergic nervous system in cholinergic mechanisms. 9 references. (Author abstract modified)

098296 Smejkal, V. U Mrazovsky 16, Praha 5, Czechoslovakia The influence of adrenolytic agents on the catecholamine toxic action in mice and rats. *Acta Biologica et Medica Germanica*. 26(3):573-577, 1971.

The toxicity of adrenaline, noradrenaline, isoprenaline and orciprenaline in rats and mice was shown to decrease in that order. The degree of cardiac arrhythmia and the severity of pulmo-

nary edema follow the same order of catecholamine activity. The relative activities of antagonists DH-ergotoxine phentolamine, pronethalol and propranolol in these tests are reported and discussed. There is very little difference between alpha- and beta-lytics with regard to their influence on the adrenaline arrhythmia after a rapid intravenous injection of the amine in rats. The alpha-adrenolytic agents are more effective in preventing the death of the animals after adrenaline and noradrenaline and in preventing catecholamine lung edema. 8 references. (Author abstract modified)

**099614** Sato, H.; Pergament, E.; Nair, V. Dept. of Obstetrics and Gynecology, Hiroshima University Hospital, Hiroshima, Japan LSD in pregnancy: chromosomal effects. *Life Sciences*. 10(13):773-779, 1971.

Possible effects on the integrity of rat chromosomes when exposed to LSD in utero at the time of implantation (4-5 days after fertilization) and at the time of rapid cell division and differentiation (8 days after fertilization) were studied. There was no statistically significant alteration in the distribution of chromosome number and no significant increase in structural chromosomal aberrations in the cells of the pregnant animals or their offspring. LSD dissolved in isotonic saline was administered orally to Sprague-Dawley rats in a single dose of 100 micrograms/kg body weight. Rats receiving the vehicle only served as controls. Some rats were sacrificed on the 14th or 15th day of pregnancy, and femur bone marrow cells were analyzed for chromosome damage; embryos were cultured in vitro 12-14 days and cells harvested for karyotyping. Other rats were allowed to deliver and raise their young; when they were 8-15 weeks old they were sacrificed and their femur bone marrow cells analyzed. In all experiments pregnant control animals and their offspring were paired with LSD treated animals and subjected to the same chromosome analysis. It appears that exposure to pure LSD during pregnancy causes no chromosomal damage. 27 references.

**099651** Jellinek, P. Department of Pharmacology, University of Melbourne, Parkville, Victoria 3052, Australia Dual effect of dexamphetamine on body temperature in the rat. *European Journal of Pharmacology (An International Journal)* (Amsterdam). 15(3):389-392, 1971.

Radio telemetric techniques were used to record the body temperatures of conscious rats. Small doses of dexamphetamine (less than 1mg/kg) caused a fall in temperature, whereas larger doses produced a rise in temperature. The hypothermic effect was more pronounced and was seen with lower doses when dexamphetamine was injected into the lateral cerebral ventricle than when injected intraperitoneally. It is postulated that dexamphetamine acts centrally to cause hypothermia and peripherally to cause hyperthermia. 13 references. (Author abstract)

**099652** Hrdina, Pavel D.; Singhal, Radhey L.; Peters, David A.V.; Ling, George M. Department of Pharmacology, Faculty of Medicine, University of Ottawa, Ottawa, Canada Role of brain acetylcholine and dopamine in acute neurotic effects of DDT. *European Journal of Pharmacology (An International Journal)* (Amsterdam). 15(3):379-382, 1971.

Neurotoxic effects (hyperexcitability, tremor) and hyperpyrexia seen after the acute administration of p,p'-DDT (600mg/kg) were associated with a significant decrease in acetylcholine concentration without any concomitant changes in the levels of dopamine in the striatum of male and female rats. In contrast, the same dose of o,p'-DDT failed to produce any of these symptoms and did not alter the concentration of the 2 neurohormones in rats of either sex. The results suggest that cholinergic mechanisms in the striatum may be involved in neurotoxic effects observed after the administration of p,p'-DDT. 22 references. (Author abstract)

**099696** Markham, Janet K.; Emmerson, John L.; Owen, Norris V. Toxicology Division, Eli Lilly and Company, P.O.Box 708, Greenfield, Indiana 46140 Teratogenicity studies of methadone HCl in rats and rabbits. *Nature (London)*. 233(5318):342-343, 1971.

Doses of 20 or 40 mg/kg of methadone administered orally to pregnant rats caused hypertonia of skeletal muscle and respiratory depression; some of the treated rats died of respiratory insufficiency. In pregnant rabbits, oral doses of 40 mg/kg induced mild sedation. Reproduction was not impaired in the rats or rabbits regardless of maternal condition. No drug related defects were observed in the foetuses, and it was concluded that methadone HCl in the doses used was not teratogenic in the rat or rabbit. 9 references. (Author abstract modified)

100217 Navarro, G.; Elliott, H.W. Department of Medical Pharmacology and Therapeutics, University of California, Irvine College of Medicine, Irvine, Calif. 92664 The effects of morphine, morphinone and thebaine on the EEG and behavior of rabbits and cats. *Neuropharmacology (Oxford, England)*. 10(4):367-377, 1971.

The effects of morphine, morphinone and thebaine on the brain electrical activity and behavior of rabbits and cats were studied. Low doses of all 3 drugs were depressant and produced initial changes in cortical and reticular formation EEG leads. High doses were convulsant. Convulsant EEG patterns appeared first in the hippocampal and cortical leads after both morphine and thebaine while they appeared in the cortical leads after morphinone. After thebaine, activity in the electrospinogram and cerebellar leads appeared only after activation of the cortical leads was observed. The toxicity of morphinone in mice was freshly examined. Morphinone killed by respiratory depression when given by the subcutaneous route and by convulsions when given by the intraperitoneal and intravenous routes. 24 references.(Author abstract)

101763 Engel, Juan; Cruz, Marcelo E.; Shapiro, Bruce. Departments of Medicine and Neurology, Boston Veterans Administration Hospital, Boston, Mass. 02130 Phenytoin encephalopathy? *Lancet (London)*. 2(7728):824-825, 1971.

Asterixis was observed in a patient with other signs of phenytoin intoxication. The patient, a 48 year old white male alcoholic, was admitted to the hospital because of depression and chronic alcoholism. He had been on isonicotinic acid hydrazide (INH) because of tuberculin conversion and on phenytoin because of grand mal seizures. Though it is possible that the patient's asterixis was a feature of an encephalopathy elicited by the administration of phenytoin (a true encephalopathy), it is proposed that phenytoin precipitated a portal - systemic (hepatic) encephalopathy. This contention is favored by the facts that the patient was on phenytoin and INH simultaneously and that there was evidence of portal - systemic shunting (cirrhosis and esophageal varices). It is suggested that phenytoin should be used only with caution in patients with liver disease. 22 references.

101764 Moir, A.T.B.; Halliday, J.; Williams, I.R. M.R.C.Brain Metabolism Unit, Department of Pharmacology, Edinburgh University, 1 George

Square, Edinburgh, Scotland Lack of effect of folic-acid administration on cerebral metabolism. *Lancet (London)*. 2(7728):798-800, 1971.

The administration of folic acid, which has been reported to cause alterations in mood and seizure threshold, was found to be without effect on the concentration of homovanillic acid, 5-hydroxyindol-3-ylacetic acid, and even the folate activity in the cerebrospinal fluid of dogs. The findings are against the central toxic actions which have been proposed for folic acid. 35 references. (Author abstract)

101935 Manning, Frederick J.; McDonough, John H., Jr.; Elsmore, Timothy F.; Saller, Charles; Sodetz, Frank J. Dept. of Experimental Psychology, Walter Reed Army Inst. of Research, Washington, D.C. 20012 Inhibition of normal growth by chronic administration of delta-9-tetrahydrocannabinol. *Science*. 174(4007):424-426, 1971.

The effect of chronic administration of delta-9-tetrahydrocannabinol on the normal growth of rats was studied. Body weight, food and water intake, and feces weight of 20 albino rats were recorded daily for 70 days. On days 11 to 40, 12 rats received behaviorally effective doses of delta-9-tetrahydrocannabinol, either orally or intraperitoneally. These rats ate significantly less than placebo dosed controls during the treatment period, and gained significantly less weight. Food intake recovered in the 30 day posttreatment period, but the former drug group still weighed less than the controls on day 70. In addition, all rats who had received intraperitoneal injections of delta-9-tetrahydrocannabinol showed evidence of chronic diffuse nonsuppurative peritonitis. 9 references.(Author abstract modified)

103314 Mannisto, P.; Nikki, P.; Rissanen, A. Pharmacology Department, University of Helsinki, Helsinki, Finland The toxicity of two MAO inhibitors combined with 5-HTP or L-DOPA in anaesthetized mice. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(5-6):441-448, 1971.

The combined toxicity of the monamine oxidase (MAO) inhibitors phenelzine or pargyline plus 5-HTP or L-DOPA was studied in conscious and halothane or pentobarbital anesthetized mice. The rectal temperature of the mice was followed with a thermocouple. Halothane had a transient protective effect in phenelzine (60mg/kg) plus 5-HTP (150 mg/kg) treated mice, whereas pentobarbital had no such effect. On the contrary, the toxicity

was increased in pargyline (100mg/kg) plus 5-HTP (150mg/kg) treated mice anesthetized with halothane as compared with the toxicity in the unanesthetized group. When L-DOPA (300mg/kg) was given together with phenelzine (60mg/kg) or pargyline (100mg/kg), the toxicity was decreased in the halothane anesthetized and somewhat less decreased in the pentobarbital anesthetized mice as compared with the unanesthetized mice. The results suggest that halothane decreases the toxicity of MAO inhibitor plus L-DOPA through a central action, possibly by reducing the body temperature of mice during the critical period. The temporary protection in the halothane anesthetized phenelzine plus 5-HTP group is probably due to the bronchodilation induced by halothane. 9 references. (Author abstract)

104380 Gualtani, A.; Marcucci, F.; Garattini, S. Istituto di Ricerche Farmacologiche 'Mario Negri', Via Eritrea, 62, I-20157 Milano, Italy Increased aggression and toxicity in grouped male mice treated with tranquilizing benzodiazepines. *Psychopharmacologia (Berlin)*. 19(3):241-245, 1971.

N-demethyldiazepam, diazepam and oxazepam incorporated in the diet were fed to albino Swiss male and female mice (10-50mg/day/kg body weight) for 6 months. Increased mortality was observed in grouped male mice but not in female or isolated male mice. Multiple skin lesions and necroses found in grouped male mice were probably due to increased aggression. 13 references. (Journal abstract)

106845 Davis, W.Marvin; Brister, Calvin C. School of Pharmacy, University of Mississippi, University, Mississippi 38677 Increased toxicity of morphine-like analgesics in aggregated mice. *Journal of Pharmacy and Pharmacology (London)*. 23(11):882-884, 1971.

The influence of aggregation on the lethal dosage of several morphine like analgesics and 1 morphine like antagonist analgesic was examined. Also, under similar conditions, combinations of alpha-methyltyrosine and the analgesics were tested. The test drugs were: d-amphetamine sulphate, levorphanol tartrate, meperidine hydrochloride, methadone hydrochloride, morphine sulphate, and pentazocine lactate. Swiss albino random bred male mice were injected intraperitoneally and were placed in stainless steel cages. Preliminary results were the basis for selecting the 5 dosages used in each LD50 deter-

mination. Mice were checked for deaths every half hour for the first 4 hours and also at 12 and 24 hours. Four hour mortality figures were used to calculate LD50 values. All test drugs significantly enhanced the acute lethality among aggregated animals. Whereas Jounela's results indicate that a 5-hydroxytryptamine system is involved in the synergistic interaction of monoamine oxidase inhibitors and narcotic analgesics, it does not appear that such a system is relevant to the aggregated lethality of mice with such analgesics alone. Alpha-methyl-p-tyrosine - morphine evidence also appears to exclude any role of a catecholamine related mechanism in the aggregated lethality in mice of such analgesics alone. 11 references.

107864 Sanghvi, I.; Shopsis, B.; Gershon, S. Neuropsychopharmacology Research Unit, New York Univ. Medical Center, New York, N.Y. 10016 The effects of sub-acute administration of triiodothyronine (T3) on the acute toxicity of lithium in the rat. *Life Sciences*. 10(21):1217-1223, 1971.

The effects of subacute administration of triiodothyronine (T3) on acute toxicity of lithium and body temperature were investigated in male Sprague-Dawley rats. T3 in doses of 0.1 and 1.0mg/kg when given intraperitoneally once daily for 6 days increased the toxicity of acute lithium administration. The hypothermic effect of lithium, on the other hand, was prevented by subacute administration of T3. Thus, on acute toxicity, lithium and T3 were synergistic while on the temperature, they were antagonists. 7 references. (Author abstract)

108719 Meltzer, Herbert Y.; Margulies, Paul. Department of Psychiatry of the University of Chicago, Pritzker School of Medicine, Chicago, Illinois Release of creatine phosphokinase from muscle - 1. Effect of polymyxin B, compound 48/80, and serotonin. *Biochemical Pharmacology (Oxford)*. 20(12):3501-3508, 1971.

In a study of the release of creatine phosphokinase from rat muscle, the effect of polymyxin B, compound 48/80, and serotonin was examined. Polymyxin B and compound 48/80 produce marked increases in the plasma levels of type 3 (skeletal muscle) creatine phosphokinase (CPK) in the Sprague-Dawley rat. Two other mast cell disrupters, dextran and ovomucoid, which also produce anaphylactoid shock, as well as the

mast cell disrupters d-tubocurarine, diphenhydramine and triptellamine, do not affect plasma CPK (PCPK) levels. The mast cell constituents histamine and heparin do not increase PCPK levels, although significant increases were noted following high doses of exogenous serotonin (5-HT). The effect of 5-HT on PCPK levels was inhibited by methysergide but that of polymyxin B was not. The neuromuscular blockade produced by polymyxin B was considered to have little if any role in the increase in PCPK levels, since neither succinylcholine or d-tubocurarine increases PCPK levels. Preventing the hypothermia secondary to polymyxin B or 5-HT did not block the increase in PCPK levels following treatment with these agents. Incubation of isolated extensor digitorum longus muscle in vitro in the presence of polymyxin B and compound 48/80 increases the rate of efflux of CPK from the muscle. It is postulated that polymyxin B and compound 48/80 have a toxic effect on muscle, one manifestation of which could be increased efflux of CPK from muscle. 32 references. (Author abstract modified)

111129 Nikitin, A.I.; Fomenko, G.F. *Kafedra farmakologii Altayskogo meditsinskogo instituta, Barnaul, USSR /Effect of chlorpromazine on renal function./ Vliyaniye aminazina na funktsiyu pochek. Farmakologiya i Toksikologiya (Moskva).* 34(5):561-563, 1971.

The effect of 4mg/kg of chlorpromazine on renal function was investigated in chronic tests on dogs. The drug was found to decrease secretion of cardiotrast, sodium and potassium excretion with the urine and to cause a drastic reduction of urinary flow due to weaker filtration and stronger tubular reabsorption. Changes in urinary flow were due to higher antidiuretic activity of the blood plasma. 13 references. (Journal abstract modified)

111131 Mitrofanov, V.S.; Runova, M.F.; Ul'yanova, O.V.; Porfir'yeva, R.P. *Institut farmakologii AMN SSSR, Moscow /Assessment of fluoracisine toxicity./ K otsenke toksichnosti fluoratsizina. Farmakologiya i Toksikologiya (Moskva).* 34(5):540-542, 1971.

Fluoracisine in long-term (75 days) daily administration to dogs in doses of 2.5 and 5mg/kg did not produce any side effects in the level of respiratory and circulatory organs. Daily administration to rats for 3 months in a dose of 10mg/kg

had no effect on the hepatic function and 30 day administration in a dose of 5mg/kg produced hardly any changes in blood pattern, nor did it induce any essential pathological changes in the internal organs. The drug exerted no topically irritating action in a concentration of 0.1%. 1 reference. (Journal abstract modified)

112001 Gilbert, Donald L.; Franko, Bernard V.; Ward, John W.; Woodard, Geoffrey; Courtney, K.D. *A.H. Robins Research Laboratories, Richmond, Va. 23220 Toxicologic studies of fenfluramine. Toxicology and Applied Pharmacology.* 19(4):705-711, 1971.

An account of toxicologic studies of fenfluramine hydrochloride (N-ethylalpha-methyl-3-trifluoromethylphenethyl-amine hydrochloride), an appetite suppressant, is presented. Mice, rats, guinea pigs, rabbits, monkeys, dogs, and cats, and the iv, ip and po (capsule and diet) routes of administration were involved in acute, subchronic, chronic, reproduction, and teratologic studies. Effects noted in acute studies were tremors, clonic convulsions, rigidity of the limbs, opisthotonus, mydriasis, lacrimation, chromodacryorrhea, salivation, vocalization, cutaneous hyperemia, piloerection, and hyperresponsiveness to tactile stimuli. Animals in subchronic and chronic studies were less active and showed slight bradycardia (dogs) and a slight to moderate reduction in food consumption and weight gain. Results were essentially negative with regard to clinical studies, gross findings at autopsy, changes in organ to body weight ratios, and histopathology. Most deaths were apparently due to respiratory failure. Teratologic information was negative. Reproduction studies showed decreases in rate of conception and in survival weight at weaning among animals at higher dose levels of fenfluramine. Weight gain was reduced during gestation in treated females. 9 references. (Author abstract modified)

118201 Jaques, R.; Riesterer, L. *Biological Research Laboratories, Pharmaceutical Division, Ciba-Geigy Ltd., CH-4000 Basel, Switzerland The influence of psychopharmacologically active substances on various models of an inflammatory reaction. Pharmacology (Basel).* 6(1):29-34, 1971.

Benzocetamine was tested in comparison with two other tranquilizers (chlorpromazine and diazepam) as to its antiinflammatory potential in rats. Using various models of increased vascular

permeability (turpentine induced pleuisy, kaolin, glass and carrageenin elicited paw edema) it was shown that benzocetamine is capable of antagonizing the permeability disturbances occurring in the early phase of inflammatory reactions. The compound does not exert an antiarthritic action. 18 references. (Author abstract modified)

**118569 Kendler, Jean; Bowry, Subhash; Seeff, Leonard B.; Zimmerman, Hyman J.** Medical Service, Veterans Administration Hospital, Boston, MA 02130 Effect of chlorpromazine on the function of the perfused isolated liver. *Biochemical Pharmacology (Oxford)*. 20(9):2439-2445, 1971.

The acute effect of chlorpromazine on the function of the perfused rat liver was evaluated by monitoring the removal of sulfobromophthalein (BSP) from the perfusate, the biliary excretion of the dye and the rate of bile and perfusate flow. The higher drug concentrations used, .00025m/l, .0005m/l, .01m/l of perfusate, led to a decreased rate of removal of BSP from the perfusate and of biliary excretion of the dye, accompanied by a significant reduction of perfusate flow and bile production. These changes were proportional to the concentration of the drug. The lowest dose used, .0010, resulted in similar but more transient effects. In accord with other related studies, it is suggested that chlorpromazine may have an intrinsic toxic effect on the liver. 33 references. (Author abstract)

**119689 Kryszka-Dozkal, Halina; Szafranowa, Halina.** Dept. of Pharmacology, Institute of Drugs, Chelmska Str. No. 30/34, Warsaw, Poland Effect of kidney injury on some pharmacological properties of phenothiazine derivatives. *Acta Physiologica Polonica (Warszawa)*. 22(4):597-604, 1971.

An investigation of the changes in the pharmacological effect of chlorpromazine and tioridazine in rats with disorders of the renal function was examined. Chlorpromazine and tioridazine were administered to the stomach by means of a metal tube. Damage of proximal renal canaliculi was induced by a single subcutaneous administration of maleic acid in a dose of 300mg per kg. The degree of kidney injury was evaluated on the third, fourth, and ninth day by means of PSP (phenol red) test, glucose level in blood and glucose content in daily urine estimation. Pharmacological effect of phenothiazine derivatives was estimated by: intensification of narcotic effect of hexobarbital, hypothermic effect and the

effect on conditioned escape reflexes. The increased hypothermic action of chlorpromazine and tioridazine was found in animals with injured kidneys. The inhibition of the escape conditioned reflex was only slightly intensified. The duration of hexobarbital narcosis under effect of these 2 drugs was shorter than in controls. 22 references. (Author abstract modified)

**121220 Drew, W.G.; Chamblin, M.; Miller, L.L.** Laboratories of Behavioral Neurophysiology, Department of Psychiatry, University of Kentucky, Lexington, KY Comparison of the effects of cyclazocine and imipramine on the circadian sleep-waking cycle of the cat. *Pharmacology*. 6(6):339-352, 1971.

The effects of both acute and chronic oral doses of cyclazocine, imipramine and a combination of these two agents (acute) on sleep - wake patterning in the cat were determined. Acute cyclazocine (0.5mg/kg), imipramine (2.5mg/kg) and the combination (0.25mg/kg cyclazocine plus 1.25mg/kg imipramine) significantly depressed rapid eye movement (REM) sleep on the administration day, but in no case was any REM rebound observed on the postdrug days. Cyclazocine depressed while imipramine and the combination increased nonREM sleep. The combination induced marked behavioral changes and had a longer duration of action than either drug alone. Chronic, oral cyclazocine or imipramine (14 days) resulted in complete tolerance of the initial effects. The abrupt withdrawal of either agent resulted in a significant REM rebound that reached a peak on the first postdrug day for imipramine but did not peak until the third postdrug day for cyclazocine. 21 references. (Author abstract)

**125418 Gorski, Michal.** ul.Nowotki 2, m.22, Lublin, Poland /Toxic effect of LSD-25 on a culture of kidney cells from Cercopithecus aethiops monkeys./ Toksyczny wpływ LSD25 na hodowle komorek nerki małpy Cercopithecus aethiops. *Archiwum Medycyny Sadowej i Kryminologii (Warszawa)*. 21(2):89-92, 1971.

The toxic influence of LSD-25 on cultures of kidney cells of the Cercopithecus aethiops monkey was investigated. The sensitivity of the monolayer culture to the drug was found to be weak, and the growth of the culture following administration of large doses of LSD-25 was inhibited. The activity of acid phosphatase in-

creased and that of monoamine oxidase decreased as a result of large doses of the drug. It is suggested that LSD-25 has an effect on the more rapid aging of cells under conditions of culture. No differences in histochemical reactions were observed between direct and indirect culture. (Author abstract modified)

125422 Sosnierz, Marian; Szczurek, Zbigniew; Herman, Zbigniew. Zakład Anatomii Patologicznej, ul.3 Maja 13/15, Zabrze, Poland /Influence of amphetamine on the pathological state of the rat brain./ Wplyw amfetaminy na stan patomorfotyczny mozgu szczura. *Archiwum Medycyny Sadowej i Kryminologii (Warszawa)*. 21(1):71-75, 1971.

The brain of rats that had been fed with amphetamine in doses of 3mg/kg and 20mg/kg daily for six months was examined neuropathologically. Amphetamine had a pathogenic influence upon the central nervous system. Pathological changes were of an encephalopathic nature and were selective and limited. The changes were found to increase in rats fed with a larger dose of the drug. The lesions in neurons in which Nissl degeneration was observed were probably connected with circulatory disturbances and with the direct toxic effect of the drug. 15 references. (Author abstract)

#### 06 METHODS DEVELOPMENT

077906 Beckett, A. H.; Mitchard, M.; Shihab, A. A. Department of Pharmacy, Chelsea College (University of London), London S.W.3, England Identification and quantitative determination of some metabolites of methadone, isomethadone and normethadone. *Journal of Pharmacy and Pharmacology (London)*. 23(5):347-352, 1971.

Methods of identification and quantitative determination of some metabolites of methadone, used in narcotics addiction treatment programs, are described. Isomethadone and normethadone are metabolized by microsomal preparations of guinea pig liver to yield 2-ethyl-1,4-dimethyl-3,3-diphenyl-1-pyrroline and 2-ethyl-1-methyl-3,3-diphenyl-1-pyrroline respectively. The structures of the pyrrolines were established (by comparison with the pyrroline derived from methadone) by thin-layer chromatography and by infrared and nuclear magnetic resonance spectral data. Methadone, isomethadone and normethadone are also metabolized to the corresponding N-oxides. A gas chromatographic procedure for the quan-

titative determination of unchanged drugs, cyclic metabolites and N-oxides of methadone, isomethadone and normethadone in microsomal homogenates is described. The N-oxides were reduced before analysis. 9 references. (author abstract modified)

078939 Rockliff, Burton W. Medical Department, Western Section, Geigy Pharmaceuticals, San Bernardino, California A brief rating scale for antidepressant drug trials. *Comprehensive Psychiatry*. 12(2):122-135, 1971.

A brief rating scale for use in antidepressant drug trials is constructed and an attempt is made to assess the reliability and validity of the scale by direct comparison with global assessments in groups of depressed patients before and during course of treatment. The 10 item depression rating scale was used to rate the severity of depression of 165 patients before and during treatment in 4 separate antidepressant drug trials. Global assessments of the severity of depression were made simultaneously. Comparison of 529 paired ratings showed a good relation between total scores of the rating scale and the global severity classifications, with statistically highly significant differences between mean scores for adjacent severity classes. In 2 placebo controlled studies of antidepressant drugs, scores of the Depression Rating Scale were compared with simultaneously obtained global ratings of response. Improvement curves by the 2 rating methods were similar in both studies. Differences between treatments in one study were demonstrated equally well by rating scale scores and global ratings. In the second study, statistically highly significant between treatment differences were demonstrated by rating scale scores at 3 intervals in the total groups and 5 intervals in the endogeneous subgroups, as compared with 1 interval and 4 intervals, respectively, by global ratings. Significance levels of differences by rating scale scores were consistently higher than the differences found in global ratings. Because of its brevity, ease of use, and sensitivity, the depression rating scale was found to be a useful instrument for measuring changes in the severity of depression in antidepressant drug trials. 14 references. (Author abstract modified)

082763 Chatten, L. G.; Locock, R. A.; Krause, R. D. Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta, Edmonton, Canada

Use of ceric sulfate and cupric perchlorate for titrimetric analyses of phenothiazine derivatives. *Journal of Pharmaceutical Sciences*. 60(4):588-592, 1971.

A method was developed in which phenothiazine derivatives were titrated visually to a colorless endpoint with ceric sulfate. Quantitative recoveries were obtained only for chlorpromazine, acetylpromazine, trifluoperazine, and triflupromazine. The method was also applied to pharmaceutical dosage forms of these drugs. UV photometric detection of the endpoint was found to be applicable only to thiethylperazine and thioridazine. Attempts to develop a quantitative procedure for phenothiazines by photometric titration with cupric perchlorate in acetonitrile were unsuccessful. 22 references. (author abstract)

082816 Byrne, P. J.; Foran, K. J.; Miller, Joan T.; Wilson, C. W. M. Department of Pharmacology, Trinity College, University of Dublin, Ireland Screening for amphetamine in human urine. *Irish Journal of Medical Science (Dublin)*. 140(1):4-10, 1971.

A rapid method is described for the detection and qualitative analysis of amphetamine in human urine by extracting the urine in alkaline ether and screening for amphetamine by gas liquid chromatography. By taking advantage of the difference in retention times for amphetamine and nicotine contained in the samples, a procedure was developed for screening 4 samples for the presence of amphetamine in each run through the chromatographic column. The method is sensitive and rapid in execution. Twenty eight samples can easily be extracted, and screened on 1 machine in 2 days. The presence of amphetamine can be confirmed by forming the acetone - amphetamine derivative which can then be compared with a standard. 9 references. (author abstract)

082862 Hoffer, B. J.; Neff, N. H.; Siggins, G. R. Division of Special Mental Health Research, National Institutes of Mental Health, St. Elizabeths Hospital, Washington, D. C. 20032 Microiontophoretic release of norepinephrine from micropipettes. *Neuropharmacology*. 10(2):175-180, 1971.

Microiontophoretic release of norepinephrine from micropipettes was measured in brain slices and Ringer's solution by radioassay. Transport number (the ratio of drug released to charge

passed) was reasonably constant, in Ringer's solution, for a given pipette but varied widely between different pipettes. This variability was unrelated to pipette geometry, or electrical parameters. In the same pipette, the transport number for drug release into brain slices was considerably less than that for ejection into Ringer's solution. Finally, there were a number of conditions under which drug release was minimal despite apparently normal charge passage. 6 references. (author abstract)

082879 Neff, N. H.; Spano, P. F.; Groppetti, A.; Wang, C. T.; Costa, E. Laboratory of Preclinical Pharmacology, William A. White Building, Saint Elizabeths Hospital, Washington, D. C. 20032 A simple procedure for calculating the synthesis rate of norepinephrine, dopamine and serotonin in rat brain. *Journal of Pharmacology and Experimental Therapeutics*. 176(3):701-710, 1971.

After the i.v. injection of tritium labeled L-tryptophan and L-tyrosine into rats, the specific activity of both compounds in plasma declined multiphasically. The specific activity of norepinephrine, dopamine and serotonin in brainstem and tele-diencephalon increased rapidly, surpassed the specific activity of the precursor amino acids in about 50 minutes and then declined slowly approaching the amino acid values. Simple equations were derived to calculate synthesis rates from the changes in the specific activities of the amines and amino acids. The calculated rates are consistent with previously reported values. With this new procedure, it will be possible to either correlate animal behavior with the rate of amine formation in various brain structures or to study the effect of drugs on brain monoamine synthesis rates. 30 references. (author abstract)

087118 Alliston, Geraldine V.; De Faubert Maunder, M. J.; Phillips, G. F. Laboratory of the Government Chemist, Cornwall House, Stamford Street, London S.E.1, England A novel thin-layer chromatography system for lysergide (LSD). *Journal of Pharmacy and Pharmacology (London)*. 23(7):555-557, 1971.

A new system of thin-layer chromatography for use with 'Chromagram' sheets is described for the identification of LSD. The crushed sample (15 to 20 mg) is dissolved in 1 to 2 drops methanol. The supernatant liquor (0.5 microliters) is spotted onto a 'Chromagram' 6060 sheet (silica gel with fluorescent indicator), and the sheet developed

with morpholine - toluene(1:9). Before dry, the sheet is observed under 360 and 254 nm ultraviolet radiation, and after drying, again observed under 254 nm. It is then sprayed with solution of 4-dimethylaminobenzaldehyde in methanol - hydrochloric acid. The only compounds found to have mobilities comparable with the epimers of lysergide are 8-beta-ergocristine, NN-dimethyltryptamine and psilocin. The use of the new system facilitates rapid analysis of materials suspected of containing lysergide without problems of interference from compound preparations. The limit of detection for lysergide with this system was found to be 4 nanograms. 8 references.

087125 Kaplan, B. B.; De Leon, V.; Sirlin, J. L. Department of Anatomy, Cornell University Medical College, New York, New York 10021 Fractionation of goldfish brain aminoacyl-transfer RNA at the microgram level. *Journal of Neurochemistry* (London). 18(6):845-850, 1971.

The methylated albumin-kieselguhr column used to fractionate tRNA was modified and scaled down by a factor of 100 to permit the separation of 1mcg of goldfish brain tRNA. Double labelling, co-chromatography of single aminoacylated tRNA species demonstrated that the column can characterize isoaccepting tRNAs without serious loss of resolution. The procedure is simple and reproducible and can be useful for the rapid scanning of tRNAs from limited amounts of biological material. Further scaling down of the procedure appears to be feasible. 23 references. (author abstract modified)

087141 Beckett, A. H.; Moffat, A. C. Department of Pharmacy, Chelsea College (University of London), Manresa Road, London S.W.3, England The buccal absorption of some barbiturates. *Journal of Pharmacy and Pharmacology* (London). 23(1):15-18, 1971.

The buccal absorptions of 5 barbiturates have been determined over the pH range 3 to 9. The absorptions increased as the pH decreased until pH 5.5 when they remained constant. No correlation between the absorptions and chloroform - 0.1N HCl partition coefficients was apparent, indicating that the absorptive power of the buffer - buccal membrane interface may represent more exactly the real affinity of the membrane for barbiturates than do partition coefficients with chloroform. 14 references. (author abstract)

087289 Hake, D. F.; Enoch, Vernie; Kelly, J. F. Anna State Hospital, Illinois A simple method for measuring the general activity of rats in brain stimulation and other studies. *Journal of the Experimental Analysis of Behavior*. 16(1):63-65, 1971.

Since the major body movements of the rat have been observed to correspond with movements of the head, it has been assumed that head movement is a valid indicator of the general activity of the rat. A stimulation connection is described which can be used to measure general activity. Freedom of movement was allowed through the use of a 4 channel mercury commutator that was mounted above the chamber and a flexible stimulation cable that extended down from the mercury commutator and activity device through a hole in the top of the chamber to the rat's head. The device requires little or no maintenance and can be easily added to existing brain stimulation equipment. 1 reference.

087362 Stevenson, I. H.; Turnbull, M. J. Department of Pharmacology and Therapeutics, University of Dundee, Dundee, DD1 4HN, Scotland Methods for investigating barbiturate tolerance. *British Journal of Pharmacology* (London). 41(2):422, 1971.

Determination of barbiturate sleeping time gives no information on the relative contribution of adaptation by the CNS and stimulation of the rate of drug metabolism to the overall tolerance. Useful information on the sensitivity of the brain to barbiturate can be obtained by determination of sleeping time following the injection of pentobarbitone sodium into the lateral cerebral ventricles. Findings have been obtained with rats chronically treated with, and withdrawn from, drugs such as morphine, alcohol, barbitone and nitrazepam. When, in addition, the following estimations are made: sleeping time after i.p. injection of labelled barbiturates; brain, liver and serum levels of labelled drug and metabolites on awakening; and the capacity of liver microsomal preparations to metabolize labelled barbiturates in vitro, a more complete assessment of the tolerance mechanisms operating is possible.

087462 Ogata, Hiroshi; Ogata, Fumiko; Mendelson, Jack H.; Mello, Nancy K. National Center for Prevention and Control of Alcoholism, National Institute of Mental Health, Chevy Chase, Maryland A comparison of techniques to induce alcohol dependence and tolerance in the mouse (Unpublished paper). Chevy Chase, Maryland, NIMH, 1971, 39 p.

It has become generally accepted that alcoholism is a form of addiction fulfilling the traditional pharmacological criteria of tolerance and physical dependence. Research on the biological basis of alcohol addiction has long been hampered by the absence of an adequate experimental animal model which exhibited tolerance and physical dependence upon alcohol. The first successful attempt to addict mice to alcohol was reported by Freund in 1969. With this background, a comparison of techniques to induce alcohol dependence and tolerance in the mouse is reported. Pilot studies indicated the direction to be taken toward evaluation of the relative adequacy of the techniques for inducing physical dependence upon alcohol without concomitant nutritional deficiency in the mouse. The 4 experimental dietary conditions were: Metrecal - ethanol, Metrecal - sucrose, sucrose - ethanol and sucrose. The results are presented with regard to: body weight and fluid consumption, mortality, and behavior during withdrawal period. The studies included: single daily polydipsia session, and multiple daily polydipsia sessions with special testing of the most effective - 4 multiple polydipsia sessions per day. The major finding of this study is that consumption of alcohol in amounts exceeding 0.50ml/day of absolute alcohol, for periods ranging between 7 and 14 days, is not a necessary and sufficient condition to produce withdrawal signs in mice upon removal of alcohol. It is concluded that an unambiguous mouse preparation which shows physical dependence upon alcohol remains to be developed. 43 references.

**088575 Rugh, John D.** Department of Psychology, University of California, Santa Barbara, California A biphasic radio-controlled stimulator. *Physiology and Behavior*. 6(3):267-269, 1971.

A stimulator is described which generates biphasic, 100-Hz square wave pulses. The stimulator is small enough to be mounted on the skull of the rat. The stimulator design allows remote control of pulse - train duration and interpulse - train interval; stimulation current is adjusted by a potentiometer on the stimulator. Some of the difficulties associated with the use of monophasic stimulators are discussed, and it is suggested that the use of radio-controlled stimulators may eliminate the problem of crosstalk. 2 references. (author abstract)

**088576 Gross, Y.; Edelson, A.; Gassner, S.; Feldman, B.; Samuel, D.** The Weizmann Institute of

Science, Rehovot, Israel A device for the chronic intra-ventricular infusion in freely moving rats. *Physiology and Behavior*. 6(3):265-266, 1971.

A simple device for the chronic infusion of solutions and pure liquids into the cerebral ventricles of freely moving animals is described. The device is made of Akulon polyamide by injection moulding and consists of 2 components: a cup and a cap. Implantation of the device is achieved through surgery of the anesthetized rat with the aid of a stereotaxic device. 2 references.

**088624 Mueller, A. J.; Kissel, J. W.; McKinney, G. R.** Mead Johnson Research Center, Evansville, Indiana 47721 A method to measure interactions of various agents and ethanol on behavioral performance in rats. *Proceedings of the Society for Experimental Biology and Medicine*. 136(1):203-206, 1971.

A method, employing continuous avoidance type behavioral performance schedule in adult male rats, to measure the effects of test agents on ethanol-induced changes in animal performance is described. The test measures discriminatory, drug - ethanol interactions on avoidance behavior, but the number of shocks not terminated was, overall, the most useful parameter to quantify the influence of a test agent on performance in ethanol treated rats. This effect was calculated as a percentage value and termed 'rideouts.' Of the test agents examined in this model those involved in metabolism were the most active inhibitors (e.g., DL-threonine, D-fructose, sodium pyruvate, L-methionine, and DL-glutamine). 4 references. (author abstract)

**088638 Fenimore, David C.; Loy, Philip R.** Texas Research Institute of Mental Science, 1300 Mour-sund, Houston, Texas 77025 Injectable dispersion of delta-9-tetrahydrocannabinol in saline using polyvinylpyrrolidone. *Journal of Pharmacy and Pharmacology (London)*. 23(4):310, 1971.

Since the intravenous administration of delta-9-tetrahydrocannabinol (THC) is complicated by its extreme insolubility in water, a preparation is reported which is well tolerated physiologically and is stable physically and chemically over extended periods of time. This medium consists of a dispersion of THC in normal saline using polyvinylpyrrolidone as a carrier. The method of preparing the medium is described.

091102 Gerben, Martin J.; Jones, Leeroy G.; Smooke, James A. U.S. Army Research Institute of Environmental Medicine, Natick, Massachusetts 01760 Behavioral tolerance of squirrel monkeys to hypoxia: a model for evaluating drug therapy. *Behavior Research Methods and Instrumentation*. 3(1):10-12, 1971.

A behavioral tolerance time procedure for measuring hypoxia induced disruption of avoidance behavior was developed using squirrel monkeys (*Saimiri sciureus*) under a Sidman avoidance contingency. Hypoxic atmospheres were acutely and repeatedly presented to highly trained monkeys during avoidance sessions with 5 min of normoxia between presentations of hypoxia. Behavioral tolerance time was defined as the period from the initiation of hypoxia to the occurrence of the first shock during each hypoxic presentation. Parametric studies demonstrated that reliable behavioral tolerance times could be obtained using a 5 sec response shock interval and a 7% oxygen atmosphere. Acetazolamide, a drug previously shown to be beneficial for several types of functioning under hypoxic conditions, markedly lengthened behavioral tolerance time, suggesting a valid model for evaluating drug therapies. 9 references. (Author abstract)

092893 Bigelow, Llewellyn B.; Albertson, Kathleen; Mostow, Nelson. National Institute of Mental Health, Bethesda, Maryland 20014 A source of error in the estimation of vanilmandelic acid in rat urine using periodate oxidation (Unpublished paper). Bethesda, Maryland, NIMH, 1971. 3 p.

A source of error is discovered in the estimation of vanilmandelic acid (VMA) in rat urine by the periodate oxidation method. Consistently higher optical density readings and apparent VMA values were obtained by periodate oxidation than by ferricyanide oxidation in comparative determinations on aliquots from the same urine sample. The periodate method of Pisano and the ferricyanide method of Sunderman were used to assay VMA spectrophotometrically at 2 wave lengths, 360 nm and 370 nm. The contribution of 3-methoxy-4-hydroxyphenylglycol to the higher values from the periodate oxidation was investigated. It was concluded that, of the 2 methods investigated here, the ferricyanide oxidation is preferable for estimation of VMA in rat urine because periodate oxidation gives falsely high results. 5 references.

092898 Freychet, Pierre; Roth, Jesse; Neville, David M., Jr. Groupe U.55 (I.N.S.E.R.M.), Hotel Dieu, 1 Place du Parvis Notre Dame, Paris 4, France Moniodoinsulin: demonstration of its biological activity (Unpublished paper). Bethesda, Maryland, NIMH, 1971. 6 p.

A method is described for the preparation of pure moniodoinsulin. Retention of full biological activity of the compound is demonstrated. The 125I-insulin prepared by this method was bound to isolated fat cells and to purified plasma membranes from liver. The binding of 125I-insulin to liver membranes was inhibited by unlabeled insulin at physiological concentrations. 25 references. (Author abstract)

094921 Pihl, R. O.; Altman, Jack. Department of Psychology, McGill University, Montreal, Canada An experimental analysis of the placebo effect. *Journal of Clinical Pharmacology and New Drugs*. 11(2):91-95, 1971.

An experimental analysis of the placebo effect is made in 3 experiments designed to test the hypothesis that the placebo response can be conditioned in lower organisms, and to investigate one possible necessary condition for this effect — the number of pairings between the active substance and introduction into an experimental chamber. A placebo response was developed in rats. The strength of the response was related to the number of pairings between the active substance and the conditioned stimuli. Control experiments indicated that this effect was a result of the pairing procedure and could not be attributed to residual traces of the drug or physical effects resulting from the large number of intraperitoneal injections, and that the effect was specific to the drug d-amphetamine, as it was not replicated using the drug chlorpromazine. A conditioning model in the development of the placebo response is discussed. 9 references. (Author abstract modified)

098208 Siegel, Philip; Atkinson, James R. Neurological Research Laboratory, Massachusetts General Hospital, Boston, Mass. 02114 In vivo chemode diffusion of L-dopa. *Journal of Applied Physiology*. 30(6):900-902, 1971.

The chemode, a reservoir - diffusing chamber with the ability to perfuse a locus with a specific agent, was constructed from a 17-gauge needle and polymer membrane (silicone rubber, Pellicon). In vitro flow rate and L-dopa-H-3 diffusion studies were assessed and followed by the in vivo

implantation of the chemode laden with L-dopa-H-3, within the cat pallidum. Residual chemode activity evaluation revealed a rate of egress for L-dopa-H-3 expressed as a negative exponential function with a diffusion rate constant at 6.8% per hour, for the in vivo silicone rubber chemode. Variable results with the in vivo Pellicon studies led to its discontinuance. Neither membrane showed a tissue reaction at the membrane site; autoradiography results were inconclusive. The silicone rubber chemode could, with a modification establishing a linear rate of egress, function in the investigation of movement disorders with L-dopa and other agents by means of long-term administration to varied focal brain targets. Therapeutic possibilities are noted. 30 references. (Author abstract)

100214 Aron, C.; Simon, P.; Larousse, C.; Boissier, J.R. Unite de Recherches de Neuropsychopharmacologie de l'INSERM, 2, rue d'Alesia, Paris 14, France Evaluation of a rapid technique for detecting minor tranquilizers. *Neuropharmacology (Oxford, England)*. 10(4):459-469, 1971.

A technique, based on the inhibition by foot shocks of a simple ongoing behavior in mice (ambulation), is suggested for the preliminary screening of the minor tranquilizers. The effect of a large number of psychotropic drugs was studied: minor tranquilizers, hypnotics, anticonvulsants, antihistamines, neuroleptics, antidepressants, antiparkinsonism agents, stimulants, analgesics and others. The efficiency, specificity, reliability simplicity and disadvantages of the method are discussed. 17 references. (Author abstract modified)

104704 Krsiak, M.; Janku, I. Czechoslovak Academy of Sciences, Institute of Pharmacology, Albertov 4, Prague 2, Czechoslovakia Measurement of pharmacological depression of exploratory activity in mice: a contribution to the problem of time-economy and sensitivity. *Psychopharmacologia (Berlin)*. 21(2):118-130, 1971.

An attempt was made to develop a quick and sensitive method for measuring pharmacological depression of exploratory activity of mice. Changes in exploratory behavior due to 2 variables, size of test enclosure and intensity of illumination, each at 3 levels were tested repeatedly over 5 exposures. The most suitable procedure for eliciting depressant effects of drugs on exploratory activity was to use a small enclosure with dim

illumination and to partially habitate the animals to this environment before giving drugs. Under these conditions the amount of walking and rearing by untreated mice was about 70% of the maximal values obtained. In the selected 'optimal' setting, the lowest effective depressant doses of chlorpromazine and barbitone were 0.3mg/kg and 5.0mg/kg, respectively, while under other conditions it was necessary to use higher doses of the drugs to obtain similar effects, and occasionally, increases in activity were also recorded. Since it took not more than 70 sec to test each mouse, up to 200 animals could be tested each day, which makes it possible to determine both dose and time response relationships quite rapidly. Results suggest ways in which experimental variables can be manipulated to enhance exploratory behavior and to make it more sensitive to specific types of psychotropic drugs. 26 references. (Journal abstract modified)

104807 Dixit, K.S.; Dhasmana, K.M.; Saxena, R.C.; Kohli, R.P. Department of Pharmacology and Therapeutics, King George's Medical College, Lucknow-3, U.P. India Antagonism of intracerebrally induced nicotinic convulsions in mice: a method for measuring the central antinicotinic activity of CNS acting agents. *Psychopharmacologia (Berlin)*. 19(1):67-72, 1971.

The antagonism of central nicotinic convulsions in mice was employed for the measurement of the central antinicotinic activity of various CNS acting agents. Chlorisondamine was found to be the most potent, and next in order were atropine and chlorpromazine. It is suggested that the method forms a simple test for evaluating the central antinicotinic activity of various CNS acting agents. 14 references. (Author abstract modified)

105405 Forrest, I.S.; Brookes, L.G.; Fukayama, G.; Serra, M.T. Dept. of Psychiatry, Stanford University School of Medicine Interference of chemoluminescence with 03H0 scintillation counting. *Journal of Pharmacy and Pharmacology (London)*. 23(9):705-707, 1971.

Persistent chemoluminescence in an alkaline scintillation medium as an interfering phenomenon in scintillation counting is discussed. The labelled drug used was 03H0 chlorpromazine. The chemoluminescence caused scintillation background counts to be erroneous by a magnitude of 3, which completely obscured the small radioactivity expected in experimental samples.

The use of a Packard Model 300 Tri-Carb Sample Oxidizer for combustion of the wool and fur, or feces and tissues of the experimental animals reduced the background count so that experimental samples produced low but unequivocal counts of 10 to 20 times background. 7 references.

**107113** Wedner, H.J.; Hoffer, B.J.; Battenberg, E.; Steiner, A.L.; Parker, C.W.; Bloom, F.E. Laboratory of Neuropharmacology, NIMH, St.Elizabeths Hospital, Washington, D.C. 20032 A method for detecting intracellular cyclic adenosine monophosphate by immunofluorescence. (Unpublished paper). Washington, D.C.NIMH, 1971, 7 p.

A series of experiments into the possibility of direct cytological localization of cyclic nucleotides by immunofluorescence are described. Immunoglobulin (Ig) fractions of antisera to cyclic AMP which had been raised in rabbits were used as the primary immunoreagent in the cyclic AMP localization. Several immunologic and pharmacological experiments were performed to verify that the positive immunofluorescent staining with rabbit anticyclic AMP Ig observed in specific cells of rodent organs indeed indicated the presence of cyclic AMP in these cells. 6 references.

**114433** Poschel, B.P.H. Pharmacology Department, Division of Medical and Scientific Affairs, Paske, Davis and Co., Ann Arbor, Michigan 48106 A simple and specific screen for benzodiazepine-like drugs. *Psychopharmacologia (Berlin)*. 19(2):193-198, 1971.

A simple method for differentiating benzodiazepine-like drugs from sedatives and anticonvulsants is presented. Naive, nonhungry, nonthirsty rats ingested inordinate amounts of a sweetened milk solution when given their first opportunity to drink the solution while under the influence of benzodiazepine drugs. Among many other drugs tested, only phenobarbital gave a similar, although clearly weaker, effect. The test provides a simple, rapid, sensitive, and specific screen for benzodiazepine like drugs. The effects are interpreted in terms of these drugs overcoming (disinhibiting) a rat's natural aversion to an unfamiliar food substance without at the same time greatly sedating the animal. 4 references. (Author abstract modified)

**115897** Smalldon, K.W. Home Countries Forensic Science Laboratory, Aldermaston, Berkshire, En-

gland A search for uncorrelated thin layer chromatographic systems for the identification of basic drugs. *Forensic Science Society Journal (London)*. 11(3):171-176, 1971.

Rf values for 50 relatively common basic drugs were determined in 5 chromatographic systems (3 systems of decreasing solvent polarity using silica gel layers, aluminum oxide, and cellulose) using Merck precoated plates. The suitability of these systems for use in combination is discussed both in terms of their Rf frequency distributions and correlation coefficients. Fifty nonphenothiazine base drugs were examined. 8 references. (Author abstract modified)

**115898** Stevens, H.M.; Jenkins, R.W. Home Office Central Research Establishment, Aldermaston, Reading, Berkshire, England The chromatographic separation of mixtures of benzodiazepine drugs. *Forensic Science Society Journal (England)*. 11(3):183-186, 1971.

The detection of impurities in medicinal 1:4-benzodiazepines by thin layer chromatography is reported. Rapid separation of mixtures of benzodiazepine drugs was achieved using a thin-layer system based on alumina, complemented by a silica gel loaded paper system. Location of the spots was by short wavelength ultraviolet light and acidified potassium iodoplatinate. The compounds examined were chlordiazepoxide, diazepam, nitrazepam, oxazepam, bromazepam, medazepam and dibenzepine. Their behavior to ultraviolet light of wavelength 254m and 350m under neutral, acid, and alkaline conditions was examined in the form of spot tests on filter paper. 4 references. (Author abstract modified)

**117510** Shellenberger, M.Kent; Gordon, J.H. Department of Pharmacology, University of Kansas Medical Center, Kansas City, KS 66103 A rapid, simplified procedure for simultaneous assay of norepinephrine, dopamine, and 5-hydroxytryptamine from discrete brain areas. *Analytical Biochemistry*. 39(2):356-372, 1971.

A method for assaying brain norepinephrine (NE), dopamine (DA), and 5-hydroxytryptamine (5-HT) simultaneously from discrete samples is presented. The method is based upon the alumina method described by Anton and Sayre, utilizing acid extraction of tissues and a single solvent step. Oxidation and determination of both NE and DA take place in a single sample and may be completed within 1-1.5hr. Basic extractions of 5-

HT and the development of a tissue blank procedure permit the accurate application of the ninhydrin reaction to the determination of 5-HT, resulting in greatly increased sensitivity. 24 references. (Author abstract modified)

**121221 Niemegheers, C.J.E.** Department of Pharmacology, Janssen Pharmaceutica N.V., B-2340 Beerse, Belgium The apomorphine antagonism test in dogs: experimental evidence and critical considerations on specific methodological criteria. *Pharmacology*. 6(6):353-364, 1971.

The necessity to standardize the apomorphine antagonism test in dogs is discussed and illustrated by the discrepant results in the literature. The variances are due to the different doses and routes of administration of apomorphine, the different criteria for assessment of antiemetic activity, and the time intervals between the administration of the antiemetic and apomorphine. A standard method is proposed. 69 references. (Author abstract)

**123265 Nielsen, E.; Schou, J.; Stuntoft, A.; Worm, K.; Morkholdt, J.** Department of Pharmacology, Section of Toxicology, University of Copenhagen, Denmark A new gas chromatographic method for the demonstration of cannabis intake by analysis of biological fluids. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 4):50, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, it was reported that intake of cannabis resin could be detected by thin layer chromatography of urine after the conversion of one or more metabolites to cannabinole (CBN) and tetrahydrocannabinole (THC) by n-toluenesulfonic acid treatment. By chloroacetylation the CBN and the THC can be transformed into compounds which can be measured with high sensitivity by gas chromatography using an electron capture detector. The sensitivity of the gas chromatographic procedure allows 0.04 ng of delta(9)-THC to be measured. Based upon this method, experiments on the biological disposal and metabolism of intravenously administered delta(9)-THC are in progress. (Author abstract)

**125249 Stolerman, I.P.** Department of Pharmacology, University College, Gower St., London, England A method for studying the influences of drugs on learning for food rewards in rats. *Psychopharmacologia (Berlin)*. 19(4):398-406, 1971.

A description is given of a standardized procedure for assessing quantitatively the acquisition of lever pressing for food rewards in rats. Training was carried out by automatic equipment throughout, without shaping the performance of individual rats, and was broken down into stages of habituation to the test chamber, learning of the magazine response, and learning to associate lever presses with operations of the food magazine (on a continuous reinforcement schedule). Lever pressing rate was the main measure of performance, but approaches to the reward area and general motor activity were also recorded. Both the spontaneous rate of lever pressing and the speed with which the magazine response was carried out were correlated with the subsequent performance under continuous reinforcement, and might therefore be useful for predicting individual differences in acquisition. Chlorpromazine and chlordiazepoxide both depressed performance during acquisition, but the mechanisms involved were probably different for the two drugs; these may be analysed further by comparing effects on acquisition with those on established performance, and by testing for dissociation of learning. 25 references. (Author abstract)

## CLINICAL PSYCHOPHARMACOLOGY

### 07 EARLY CLINICAL DRUG TRIALS

**074150** Hadler, Arthur J. Tufts University School of Medicine, Boston, Massachusetts Fenfluramine, a new anorexigenic agent. *Journal of Clinical Pharmacology and New Drugs*. 11(1):52-55, 1971.

The efficacy and sedative properties of a new anorexigenic agent, fenfluramine hydrochloride, are examined to confirm previous reports of activity of the drug, and to determine the most desirable dose and the incidence of side effects. The double-blind study of 32 patients comparing fenfluramine with a placebo over a 12 week period demonstrates that fenfluramine is an anorexigenic without central nervous system (CNS) stimulating properties. It produces no nervousness, jitteriness, or insomnia even though it is amphetamine-like in chemical structure. Its chief side effects were abdominal cramps, gas, and loose stools as well as drowsiness. This series of patients was not large enough to provide adequate data as to the effectiveness of fenfluramine or the optimal dose to use. Nevertheless, fenfluramine appears to be a safe anorexigenic drug without CNS stimulating properties and merits further investigation for use in reducing the weight of obese subjects with hypertensive and cardiovascular disease and anxiety states, and of people who eat before retiring. 18 references. (Author abstract modified)

**074318** Walker, Earl E. 804 South Chapel Street, Newark, Delaware 19711 Treatment of anxious depressive patients in general medical practice. *Current Therapeutic Research*. 13(1):34-39, 1971.

The overall usefulness of a phenothiazine, in treatment of emotionally disturbed patients seen in a general medical practice, is evaluated in a clinical study of 50 men and women patients. Thioridazine (50 to 150mg/day) was administered to the patients for relief of complaints and symptoms characteristic of mixed anxiety - depression. 4 references. (Author abstract modified)

**074815** Poldinger, Walter. University Psychiatric Clinic, Basle, Switzerland Clinical experience with pimozide. *Current Therapeutic Research*. 13(1):23-27, 1971.

The efficacy of pimozide (R 6238) in a chronic hospital population requiring neuroleptic maintenance therapy is assessed. The drug, a deriva-

tive of diphenylbutylpiperidine -- a novel class of potent and long acting neuroleptics, was predicted to be a potent antipsychotic agent devoid of autonomic and psychomotor sedative effects. The patients were 20 chronic psychotics, aged 20 to 60 years, with paranoia or schizophrenia. The results indicated the optimal daily dose to range from 1 to 7mg dispensed as a single oral administration. This low dose of pimozide effectively replaced the previous neuroleptics (sometimes combined with an antiparkinsonian agent and a barbiturate). The previously reported observation, that pimozide not only produces insight but also awareness by the patient of himself in outpatients with paranoia or paranoid personality -- leading to improved social behavior and achievements -- is believed to warrant further confirmation, but pimozide still appears to be the drug of choice for the management of psychotic or prepsychotic patients when social reintegration is envisaged. 14 references.

**074868** Lehmann, H. E.; Ananth, J. V.; Geagea, K. C.; Ban, T. A. 6875 La Salle Boulevard, Verdun, Quebec, Canada Treatment of depression with Dexedrine and Demerol. *Current Therapeutic Research*. 13(1):42-49, 1971.

In a clinical psychopharmacological study, the therapeutic effects of a combination of meperidine hydrochloride (Demerol hydrochloride) and dextroamphetamine sulfate (Dexedrine sulfate) are examined. The drug combination was administered intermittently for 2 weeks to a population of psychiatric, depressed patients. Observations that the combined drugs were effective in treatment of depressive symptomatology were first made in a pilot experiment with 12 patients and further substantiated in an uncontrolled clinical trial with 10 patients who were systematically evaluated on the Hamilton rating scale for depression. The action mechanism of these substances may resemble that of other antidepressant drugs. 16 references. (Author abstract modified)

**077703** Couderc, L. Marseille, France /A recent clinical trial with Dogmatil./ A propos d'un essai clinique recent du Dogmatil. *Encephale (Paris)*. 60(1-Suppl.):19-23, 1971.

Clinical trials with Dogmatil or Sulpiride were conducted on 93 females suffering from acute or chronic mental disorders. The daily dose was 300mg, i.m. administered for the first 5 to 8 days, followed by oral administration of 1200mg daily. In the few acute cases, Sulpiride was not combined with other medication, but in the other cases this medication was substituted for any previously administered drugs, ignoring the possible cumulative drug effect of previous medication. Although a subjective evaluation was obtained, the responses were judged on the basis of a number of opinions. The criteria were established by contact through numerous interviews, by evaluation of the sedation or the disappearance of hallucinatory factors, and by the behavior and sociability of the subjects in the wards or at occupational therapy. In contrast to the neuroleptics, the extrapyramidal side-effects were absent, and arterial hypotension was seen at the outset but was quickly corrected by a cardiovascular analeptic. The results revealed 73 favorable results to varying degrees, 12 remained unchanged, and 8 showed exacerbation.

**078956 Hollister, Leo E.** Veterans Administration Hospital, Palo Alto, California 94304 The pharmacologist-clinical investigator dialogue in evaluation of new psychotherapeutic drugs. *Journal of Clinical Pharmacology and New Drugs*. 11(2):77-82, 1971.

The concept that the establishment of a continuing dialogue between the animal pharmacologist and the clinical pharmacologist in the evaluation of new psychotherapeutic drugs will make possible the screening of the drugs by both investigators with less investment in time and money. The essentially conservative approach proposed is outlined under 4 phases: phase 1 studies -- human pharmacology and toxicology; phase 2 studies -- finding an indication; phase 3 studies -- proving the drug; and phase 4 studies -- clinical studies. Questions of interest that require answers are enumerated for each of the 4 phases. Food and Drug Administration requirements for animal toxicity studies for oral or parenteral new drug are outlined. In looking toward the future, it is suggested that for the drug companies and the regulatory agencies to achieve their mutual goals, which are directed toward allowing improved therapeutic agents to reach the market as quickly as possible, it might be advantageous for both to work with an independent group of consultants.

These consultants, both animal and clinical pharmacologists, required clinical and laboratory tests of a new drug as it goes through the various stages of investigation and development. It is believed that opening up the channels of communication in the evaluation of new psychotherapeutic drugs might not solve all of the problems in this area, but that it might be reasonable to assume that they might be decreased.

**079232 Darling, Harry F.** Bridgewater, Massachusetts Haloperidol in 60 criminal psychotics. *Diseases of the Nervous System*. 32(1):31-34, 1971.

Observations of the results of treatment of 60 intractable criminal psychotics with a totally different class of tranquilizers -- the butyrophenones represented by haloperidol -- are reported. Improvement was noted in some patients of a group previously uncontrolled even on high doses of phenothiazines. It was found that out of 30 chronically assaultive patients, 20 improved substantially on haloperidol after the phenothiazines had been tried and failed. Over a 5 month period of observation the patients were no longer assaultive, were substantially less psychotic, and engaged in some socialization or activity; 67% showed maximal - moderate improvement. A group of psychotic patients who were committed for crimes similar to those of the assaultive patients, but who were nonviolent during hospitalization, served as a control group for reduction in psychotic symptoms other than assaultiveness. These patients had also been treated unsuccessfully with the phenothiazines; 77% in this group showed marked to moderate improvement. Side effects were mainly extrapyramidal and were easily controlled. Haloperidol did not cause the weight gain, edema, and oversedation often caused by the phenothiazines. 2 references. (Author abstract modified)

**083163 Kline, Nathan S.; Winick, Lawrence.** 40 East 69th Street, New York, New York 10021 Open trial evaluation of keto-imipramine. *Current Therapeutic Research*. 13(1):57-62, 1971.

An open study to evaluate the antidepressant efficacy of keto-imipramine for patients suffering from primary depression, conducted on ambulatory private patients, is reported. Results demonstrated that significant improvement occurred in 6 out of 37 patients given keto-imipramine (16%) within 4 weeks of starting the medication. Within 2 weeks, 18 patients were eliminated, leaving 19

patients who received an adequate trial with respect to time. Thus 32% of the patients treated with keto-imipramine improved significantly. While not statistically significant, 71% of the male patients remaining on keto-imipramine for 4 weeks had a satisfactory response, compared to 9% corresponding for females. It appears that keto-imipramine is selective for male patients. It would be worthwhile to determine whether such a trend is found with other tricyclic antidepressants. It is believed that a sex bias does exist in favor of male patients responding to tricyclic antidepressant. This has important research as well as clinical implications. It leads, for instance, to the question of whether those patients responding to the addition of thyroid when ordinary imipramine use has failed are not predominantly the females. (Author abstract modified)

**085406 Allno, J. J. Lopez-Ibor.** Madrid, Spain  
Manic patients' improvement with methysergide.  
*American Journal of Psychiatry*. 127(10):1423, 1971.

A letter to the editor explains, on the basis of the author's experiments, why the experiment described in 'Methysergide as a Treatment for Mania' failed. The length of time and dosage were insufficient. Not all manias respond to methysergide, and the drug does not act uniformly upon all symptoms involved in mania. 1 reference.

**085407 McCabe, Michael S.** St. Louis, Missouri  
/Methysergide as a treatment for mania./ Dr. McCabe replies. *American Journal of Psychiatry*. 127(10):1423-1424, 1971.

A letter to the editor, in reply to comments on 'Methysergide as a Treatment for Mania', reports that clinical improvement could not be observed after each dose, as was suggested, and proposes the need for a double-blind crossover study with high doses of methysergide. 2 references.

**086571 Saarma, J.; Vasar, H.; Saarma, M.**  
Psychiatric Clinic, Tartu, U.S.S.R. Effect of laevomepromazine on higher nervous activity in schizophrenia. *Activitas Nervosa Superior (Praha)*. 13(2):89-91, 1971.

In a sample of 18 paranoid schizophrenics an uncontrolled study on the effect of 6-week levomepromazine (LM) treatment (daily doses from 50 to 150mg) has been carried out. By means of a test battery a considerable improvement of the internal inhibitory process in the mechanism

of the second signal system as well as in the first signal system has been encountered; this is to be regarded as the main action of the LM treatment. This action is quite different as compared with the effect of other neuroleptic drugs and insulin treatment. In the autonomic activities only a moderate shift towards diminishing of the sympathetic tone has been brought about by the LM treatment. 11 references. (author abstract)

**086896 Chien, Ching-Piao; Kaplan, Robert M.**  
Boston State Hospital, Boston, Massachusetts  
Clinical trial of imidazoline (DH-524) as an anti-depressant. *Current Therapeutic Research*. 13(6):350-352, 1971.

Comparison of imidazoline (DH-524) was carried out with imipramine in a double-blind study which was terminated prior to its completion. The clinical efficacy of the imidazoline remained unimpressive while there was an obvious elevation of blood pressure. This norepinephrine type of action might be interesting in terms of its neuropharmacological implication. Imidazoline however, does not appear to be a practical antidepressant because of the elevation of blood pressure. 6 references. (author abstract)

**087035 Gall, Heinz.** Universitäts-Nervenklinik, Eilernholzstrasse, 22 Greifswald, Germany  
/Production of local anaphylactic reactions as an attempt to treat depressive psychoses./ Therapieversuche durch Erzeugung lokaler Anaphylaxien bei depressiven Psychosen. 23(4):240-243, 1971.  
Psychiatrie Neurologie und medizinische Psychologie (Leipzig).

On the basis of the literature and the author's own observations of sudden disappearance of phase psychosis in single cases after the occurrence of other diseases or stress, and allergy in particular, local anaphylactic skin reactions against rabbit serum were produced in an experimental series with cases of endogenous depression. The 35 patients observed exhibited the following results: in 5 patients total elimination of the depressive phase occurred with the appearance of Arthus phenomenon. Marked relief of the basic symptoms was observed in 9 patients, whereas 21 subjects failed to show any change. Best results were obtained in genuine cases of endogenous depression, whereas cases with neurotic features or organic involvement of the brain showed poor response. 22 references. (author abstract)

088143 Zeldenberg, Phillip; Perel, James M.; Kanzler, Maureen; Wharton, Ralph N.; Mallitz, Sidney. Department of Experimental Psychiatry, New York State Psychiatric Institute, 722 West 168th Street, New York, New York 10032 Clinical and metabolic studies with imipramine in man. *American Journal of Psychiatry*. 127(10):1321-1326, 1971.

Clinical and metabolic studies are made with severely depressed patients. It was found that 6 out of the 7 patients under study improved rapidly with very high doses of imipramine. Clinical improvement correlated well with drug blood levels, which varied greatly from patient to patient and were characteristic of individual patients rather than of dose. Three out of 5 of the same patients receiving a combination of presumptive inhibitors of drug metabolizing enzymes and imipramine had drug blood levels comparable to those of 2 patients receiving high doses of imipramine alone. Further study is underway to clarify the human pharmacology of these 2 therapies. 13 references. (Author abstract modified)

088144 Zall, Harry. Philadelphia Naval Hospital, 17th and Pattison Avenue, Philadelphia, Pennsylvania 19145 Lithium carbonate and isocarboxazid -- an effective drug approach in severe depressions. *American Journal of Psychiatry*. 127(10):1400-1403, 1971.

Lithium carbonate and isocarboxazid, in combination, are found to be an effective drug approach in treatment of severe depressions. Three case reports, illustrating the difficulty in finding an effective antidepressant drug program for regularly recurring depressions, are presented. All 3 patients responded well to the combination of lithium carbonate and isocarboxazid. It is concluded that lithium and at least 1 monoamine oxidase inhibitor may act synergistically in relieving certain severe depressions in manic-depressive illness. 12 references. (Journal abstract modified)

088153 Itil, Turan M.; Polvan, N.; Holden, J. M. C. Department of Psychiatry, University of Missouri School of Medicine, Missouri Institute of Psychiatry, 5400 Arsenal St., St. Louis, Missouri Clinical and electroencephalographic effects of cinanserin in schizophrenic and manic patients. *Diseases of the Nervous System*. 32(3):193-200, 1971.

Clinical and electroencephalographical effects of cinanserin, a potent new antiserotonin compound, was studied in schizophrenic and manic patients. In 2 of the cooperative patients allnight

sleep investigations were also carried out. Cinanserin had a dramatic effect on the typical manic symptoms. These symptoms improved in schizophrenic patients also, but to a much smaller degree. In contrast, the symptoms of schizophrenia showed very little improvement, particularly in schizophrenic Ss. In chronic schizophrenics, in whom the dosage of cinanserin was gradually increased, there was an exacerbation of florid schizophrenic symptomatology. Although manic patients demonstrated a decrease of motor agitation and restlessness and improvement of insomnia, several of the chronic schizophrenics developed akathisia like behavior and insomnia, these clinical manifestations being associated with a decrease of slow activity and an increase of fast waves in the electroencephalogram. A decrease or disappearance of the deep sleep prints was also found in the allnight recordings of chronic schizophrenics. It was postulated that the decrease of slow wave sleep may be associated with the antiserotonin effect of cinanserin. The strong therapeutic effect of cinanserin in manic patients supports the serotonin hypothesis in mania. 26 references. (Author abstract)

090499 Martin, Daniel J.; Kaelbling, Rudolf. Ohio State University, Department of Psychiatry, Columbus, Ohio Diazepam-modified electroconvulsive therapy. *Biological Psychiatry*. 3(2):129-139, 1971.

Current anesthetic practices for electroconvulsive treatment (ECT) have complicated the procedure and introduced added risks, making the presence of an anesthesiologist desirable. Since it is only necessary to allay the patient's anxiety, and the deeper planes of anesthesia produced by short acting barbiturates are not needed, intravenous diazepam (Valium) was used as the anesthetic agent for ECT. Twenty two patients were given 204 ECTs, 160 with diazepam and 44 with thiopental sodium (Pentothal). Parameters monitored were pulse, blood pressure, continuous 3 lead EKG, and electromyogram of the calf to show convulsive strength and duration. Compared to thiopental, diazepam produced an equally small number of cardiac arrhythmias, less effects on blood pressure, fewer airway problems, and shorter periods of apnea (average 134 secs vs 147 secs with thiopental). Patient acceptance was good, side-effects were not a problem, and the conclusion was that diazepam is a safe and effective

tive agent for use in ECT, although not as reliable as thiopental in producing an anesthetic effect. 17 references. (Author abstract)

**091592 Jaffe, Jerome H.; Senay, Edward C.** 950 E. 59th St., Chicago, Illinois 60637 Methadone and l-methadyl acetate: use in management of narcotics addicts. *Journal of the American Medical Association*. 216(8):1303-1305, 1971.

Ten volunteer patients participating in a methadone hydrochloride maintenance program were assigned randomly to experimental (5 patients) or control (5 patients) groups. These patients had been in treatment for several months and had been stabilized (had no change of dosage for at least 3 weeks) with methadone prior to inclusion in the study. Patients in the experimental group were given l-methadyl acetate (l-alpha acetylmethadol) on weekends and methadone on weekdays. Patients in the control group were given methadone each day. Clinic attendance, requests for change in medication, and scores on an opiate withdrawal test instrument did not reveal differences between groups. Clinical observers blind to the experiment were unable to discriminate experimental and control patients. No untoward reactions were observed in either group. These preliminary observations suggest that l-methadyl acetate can be interchanged repeatedly with methadone without difficulty. 3 references. (journal abstract)

**092162 Hesbacher, Peter; Zamostien, Bernard B.; Kelly, Edward A.; Jenkins, B. Wheeler; Rickels, Karl.** 203 Piersol Building, University Hospital, 3400 Spruce Street, Philadelphia, Pennsylvania 19104 Tybamate in treatment resistant headaches. *Headache*. 10(4):148-149, 1971.

Tybamate is assessed in patients selected first on the basis of the complaint of chronic headaches and secondly as anxious psychoneurotics. An open study was made of clinic and general practice patients with histories of at least moderately severe headaches for a period of over 1 year. Dosage adjustment was permitted and the preferred level was 1250mg/day of tybamate. Analysis of results from treatment of 32 patients indicated that duration of treatment is an important element. The most improvement was seen in patients treated 2 weeks or longer. Replication of the study and further study to isolate those pretreatment factors characteristic of improvers is recommended. 3 references.

**096113 Korn, M.; Pinchard, A.; Breulet, M.; Goffioul, F.; Bobon, J.** Clinique Psychiatrique Universitaire, Rue Saint-Laurent 58, B-4000 Liege, Belgium /Long-acting antiparkinsonian drugs: I. Pilot study of benzetimide (342 cases)./ Antiparkinsoniens a longue duree d'action: I. Etude pilote de la benzetimide (342 cas). *Acta Psychiatrica Belgica (Bruxelles)*. 71(2):65-75, 1971.

A study was conducted in which dl-benzetimide was administered to 42 patients and dex-benzetimide was given to 300 patients suffering from drug induced or essential parkinsonism. The study established the equivalence with procyclidine, a classical antiparkinsonian drug. The originality of benzetimide is due to its prolonged duration of action when given per os (24 hours), allowing the administration of a single daily dose, particularly at bed time. This property and the good tolerance of the drug with regard to anticholinergic effects make it an antiparkinsonian drug of choice for the correction of the extrapyramidal side effects of the neuroleptics, particularly the long acting neuroleptics. 8 references. (journal abstract modified)

**097554 Bartlett, Clyde.** 231 Town North Drive, Terrell, Texas 75160 Comparison of thioridazine tablets to chlorpromazine spansules in the maintenance care of chronic schizophrenics. *Current Therapeutic Research*. 13(2):100-106, 1971.

The relative merits of a sustained action phenothiazine are compared with those of a regular tablet formulation of another phenothiazine in the maintenance care of chronic schizophrenics in an effort to determine whether the sustained action form of phenothiazines are necessary. The results do not indicate such necessity. Thioridazine tablets were substituted for chlorpromazine 'Spansules' in the daily regimen of 39 female, chronic schizophrenic patients. The results confirmed those of earlier studies -- patients are at least as effectively maintained on conventional formulations of phenothiazines as with the sustained action tablets. Some symptomatic improvement was observed with thioridazine, particularly for insomnia. One patient exhibited parkinsonian symptoms; however, no further adverse effects were noted. 7 references. (Author abstract modified)

**097555 Gallant, D. M.; Bishop, M. P.** Department of Psychiatry and Neurology, Tulane University School of Medicine, New Orleans, Louisiana SCH 12041: a new antianxiety agent. *Current Therapeutic Research*. 13(2):107-110, 1971.

A new antianxiety agent, SCH 12041 -- a benzodiazepine derivative structurally related to chlordiazepoxide and diazepam, is tested on 10 alcoholic inpatients. The objectives were: to determine the optimum dose which would indicate the therapeutic potential of the drug in anxiety and related symptoms; to characterize the effects of the drug; and to investigate side effects. It was concluded that both the global ratings and psychologic data indicate that SCH 12041 possesses antianxiety properties. It is recommended that a subsequent controlled evaluation of SCH 12041 be performed in order to reach any definitive conclusions as to the efficacy of the drug in patients presenting the symptomatology of anxiety and tension. In view of the relatively high incidence of somnolence in this study, it is recommended that the maximal dosages of this drug in the proposed controlled study be no more than 240mg. daily. 3 references.

**098625** Goncalves, N.; Linden, J. Bergische Landstrasse 2, Dusseldorf, Germany /Clinical experience with noxiptiline, a new antidepressive agent./ *Klinische Erfahrung mit Noxiptilin, einem neuen Antidepressivum. Medizinische Welt (Stuttgart)*. 22(27/28):1139-1142, 1971.

Noxiptiline, a new antidepressive drug, was tested in 20 women and 10 men hospitalized with endogenous depressions and compared with other diphenylmethane derivatives. Chemically, noxiptiline is 5-(dimethylaminoethyl-oxyimino)-5H-dibenzo-(a,d)-cyclohepta-1,4-dien-h drochloride. It was found effective in 67% of the cases studied. Oral dosage ranged between 75mg to 300mg daily; average treatment duration was 52.4days. Degree of severity of the problem ranged from mild to severe with 18 patients in the medium severity grouping. Major effects were observed in 3 areas: drive increase, removal of inhibitions, and mood brightening. The drug is easily comparable to imipramine with slightly lower efficacy. Dampening, anxiolytic and quieting effects seem weaker than amitriptyline's; side reactions are at a more reduced level than those of amitriptyline and imipramine. It is therefore well tolerated. 7 references.

**098662** Monti, J. M.; Trenchi, H. M.; Morales, F. author address not given /Action of a benzodiazepine derivative, Ro 5-4200, on the EEG and sleep cycle in patients with insomnia./ *Acciones de un derivado benzodiazepínico, el Ro 5-4200*

*sobre el EEG y el ciclo de sueño en pacientes con insomnio. Acta Neurologica Latinoamericana (Buenos Aires)*. 17(1):5-11, 1971.

The action of Ro 5-4200, a benzodiazepine derivative, was studied on the sleep cycle and the electroencephalogram (EEG) of patients with severe and moderate insomnia. The drug was administered in oral doses of 2-3mg and its action assessed on some variables of the sleep cycle by means of cortical EEG, electroculogram and electromyogram recordings of 8 hours duration. At the EEG level Ro 5-4200 induced disappearance of slow wave activity in all leads, which were substituted by fast waves of moderate amplitude and spindles. It was therefore possible to distinguish only 3 states: wakefulness, nonrapid eye movement (NREM) sleep and rapid eye movement (REM) sleep. The drug induced a consistent decrease of the latency to fall asleep and the number of awakenings, when compared with placebo. Patients with severe insomnia showed increased total sleep time at the expenses of NREM and REM sleep, whereas patients with moderate insomnia had only increased NREM sleep. After the drug was discontinued there was no rebound of REM sleep. Ro 5-4200 was concluded to be a reliable and effective hypnotic in patients with severe insomnia, tending to normalize sleep quantitatively and qualitatively. It differs from barbiturates, phenothiazines and butyrophenones by not depressing REM sleep. 4 references. (Journal abstract modified)

**098915** no author. author address not given Doxepin: a review. *Drugs (Basel)*. 1(3):194-227, 1971.

The actions, properties, efficacy, and safety are reported of doxepin, a dibenzoxepin tricyclic derivative structurally related to amitriptyline which is advocated as a single agent for the treatment of depression and/or anxiety neurosis. In pharmacological studies doxepin has been shown to possess both antianxiety and antidepressant activity and to have anticonvulsant, but not muscle relaxant properties. In initial clinical trials involving small numbers of patients, it has been as effective as standard drugs in relieving anxiety or depression, or a combination of these symptoms. Side effects are similar to those of the tricyclic antidepressants. Drug interactions are also reviewed along with contraindications, precautions and dosage. 44 references. (Journal abstract modified)

099156 Ota, K. Y.; Kurland, A. A.; Turek, I. Spring Grove State Hospital, Maryland Psychiatric Research Center, Catonsville, Maryland A clinical trial of SCH-12041 with chronic alcoholic patients. *Current Therapeutic Research*. 13(7):463-468, 1971.

Results are presented from an evaluative study of the usefulness of SCH-12041, a fluorinated benzodiazepine derivative, in the treatment of chronic alcohol patients. In an open, uncontrolled study, 10 convalescing alcoholic men with moderate to severe anxiety were treated with 120mg daily of SCH-12041 for 2 weeks. The Brief Psychiatric Rating Scale was used to evaluate therapeutic effects. Laboratory tests included electrocardiogram, electroencephalogram, and studies of blood, urine, and liver function. Statistical analysis of the data indicated that, with treatment, the patients had less anxiety, guilt feelings, tension, and depressive mood. Nursing evaluations were consistent with the psychiatrist's ratings. There was little or no toxicity at the dose administered. In view of these promising results, further investigation of SCH-12041 under double-blind conditions should be undertaken. 5 references. (Author abstract modified)

099157 Gallant, D. M.; Guerrero-Figueroa, R.; Bishop, M. P. Department of Psychiatry and Neurology, Tulane University Medical School, New Orleans, La. GP-45795: a new dibenzothiepin antipsychotic agent. *Current Therapeutic Research*. 13(7):469-472, 1971.

Preliminary clinical trials of GP-45795, a new dibenzothiepin compound, are reported, and the effectiveness of the drug in treating psychotic activity is discussed. Earlier animal studies indicated that particularly positive effects would be found in the case of schizophrenics. These laboratory predictions were confirmed in the present evaluation of GP-45795 in severely chronic schizophrenic patients. It should also be stated that at the therapeutic dosage range of 60mg to 500mg daily in chronic schizophrenic patients, GP-45795 apparently produces only mild side effects. The suggestion from the animal data of possible strong convulsant properties in man was not confirmed in this early trial. Using past experience in the evaluation of new antipsychotic compounds in this particular patient population, it is observed that the present findings appear strongly indicative of a degree of therapeutic effectiveness for this compound in the treatment of chronic schizophrenia at least equal to the effica-

cy of established prototype agents. 2 references. (Author abstract modified)

099933 no author. author address not given Evaluation of a new hypnotic agent: flurazepam hydrochloride (Dalmane). *Journal of the American Medical Association*. 218(2):246, 1971.

The Council on Drugs reports an initial assessment of flurazepam hydrochloride (Dalmane), a hypnotic agent, useful in the treatment of insomnia. The incidence and type of untoward effects are similar to those observed with other hypnotic agents. Discussion of the drug includes: clinical results, adverse reactions, precautions, pharmacology, dosage and preparations, and non-proprietary and trade names.

100258 Caldwell, Henry C.; Westlake, Wilfred J.; Connor, Susan M.; Flanagan, Thomas. Research and Development Division, Smith Kline & French Laboratories, Philadelphia, Pa. 19101 A pharmacokinetic analysis of lithium carbonate absorption from several formulations in man. *Journal of Clinical Pharmacology and New Drugs*. 11(5):349-356, 1971.

A commercial lithium carbonate capsule (Eskalith), a VA-NIMH capsule, and a delayed release tablet were compared to a lithium carbonate solution in order to determine the relative absorption (availability) of lithium from these dosage forms. The study was conducted in normal males in a balanced incomplete block experimental design. The results show that lithium carbonate in these capsules is as available as in the solution (standard), while the drug in the delayed release tablet is not completely available. A pharmacokinetic analysis for lithium carbonate absorption enabled estimation of the pharmacokinetic parameters in a 2-compartment model for orally administered lithium carbonate in 4 volunteers. 13 references. (Author abstract modified)

100260 Pecknold, J.C.; Ananth, J.V.; Ban, T.A.; Lehmann, H.E. Douglas Hospital, Verdun, Quebec, Canada Troxonium tasylate in drug-induced parkinsonism: a controlled comparative study. *Journal of Clinical Pharmacology and New Drugs*. 11(5):367-370, 1971.

In a 6 week, double-blind, placebo controlled comparative study, the antiparkinsonian effects of troxonium tasylate were compared with those of a standard antiparkinsonian agent, trihexyphenidyl. Results indicated that troxonium tasylate does

have an antiparkinsonian effect as revealed by a trend toward improvement noted during the first week of therapy, which dissipated rapidly thereafter. This observation confirms results reported in an uncontrolled study. This may be attributed to the possibility that the drug's inhibition of acetylcholine may be self-limiting. The antiparkinsonian activity of troxonium tosylate was inferior to that of trihexyphenidyl. In fact, only trihexyphenidyl produced statistically significant improvement. However, on item analysis, troxonium tosylate produced statistically significant improvement in the items of tremors and rigidity. None of the 3 substances used produced any significant change in psychopathology. 9 references. (Author abstract modified)

**100439** Carroll, Bernard J. University Department of Psychiatry, Royal Melbourne Hospital, Victoria, Australia Monoamine precursors in the treatment of depression. *Clinical Pharmacology and Therapeutics*. 12(5):743-761, 1971.

The therapeutic effectiveness of the metabolic precursors of catechol and indole amines in depressed patients is examined, based on recent findings using high dosage and prolonged treatment. Recent clinical trials of L-dopa, in doses comparable to those effective in Parkinson's disease, have failed to demonstrate a specific effect, and further, depression is a significant problem in parkinsonian patients receiving the drug. It is concluded that dopamine is therefore not the deficient cerebral amine predicted from the monoamine theory of depression, although the role of functional brain norepinephrine following its administration in depression and mania remains unsettled pending further investigation. Dihydroxyphenylserine (DOPS) has not been tested as an antidepressant, but preclinical evidence indicates that it also is unlikely to alter brain norepinephrine levels in man at a tolerable dosage. In tests of the indole amines, L-tryptophan (TP) has been shown to possess no significant antidepressant properties in severely ill patients. Some support has been found for its potentiation of monoamine oxidase inhibitors, but routine use of this combination produces undesirable side effects. The need exists for further research in this area. 5-Hydroxytryptophan (5-HTP) has not been generally useful in the small number of subjects tested, although preclinical trials suggest that, unlike tryptophan, it does not significantly increase functional serotonin levels in the brain. It

is concluded that clinical trials of TP and 5-HTP have yet to disclose elements of the depressive syndromes which may be mediated by serotonergic mechanisms, a finding consistent with the possibility that the rate limiting hydroxylation of TP may be impaired in depressed patients. 150 references.

**100537** Biscaldi, G.P.; Hattab, J.; Montanaro, N.; Scoz, R. 13(9):606-615, 1971. Quantitative polygraphic evaluation of emotional tension in the study of a new benzodiazepine. *Institute of Occupational Medicine, University of Pavia, Italy Current Therapeutic Research*.

By means of a polygraphic recording of the electrodermal potentials, pulse and respiration, the effect of a new benzodiazepine, demethyldiazepam (A-101), on emotional tension was evaluated. The experiment was carried out in 2 stages: the first in double-blind conditions in comparison with a placebo and the second a controlled trial in a crossover design confronting the effect of A-101 with oxazepam and diazepam. Statistical analysis of the results showed that demethyldiazepam possesses a sure and definite action in emotional disturbances and that its effect was superior to that exercised by diazepam or oxazepam. 22 references. (Author abstract modified)

**100606** Bourgeois, M. Centre Jean-Abadie, 33-Bordeaux, France /Results from flupenthixol (Emergil)./ Bilan du flupenthixol (Emergil). *Annales Medico-Psychologiques (Paris)*. 1(3):434-443, 1971.

A study on flupenthixol is presented. After several years of experimentation, the results affirmed previous findings. The advantages of this supple, tolerant, and fast acting product are found in 3 domains: 1) in ambulatory psychiatry, in patients under consultation, dispensary patients, with the prescription of up to 0.5mg.; 2) in psychosomatic practice and general medicine; 3) in heavy psychiatry, particularly psychoses. 1 reference.

**102214** Hedges, Annmarie; Turner, P.; Harry, T.V.A. Department of Clinical Pharmacology, St.Bartholomew's Hospital, London, England Preliminary studies on the central effects of lorazepam, a new benzodiazepine. *Journal of Clinical Pharmacology and New Drugs*. 11(6):423-427, 1971.

Lorazepam, a novel benzodiazepine, chemically described as 7-chloro-5-(o-chlorophenyl)-1,3-dihydro-3-hydroxy-2H-1,4-benzodiazepine-2-one, was compared with diazepam, quinalbarbitone (secobarbital), and placebo in a study with 8 normal volunteers of both sexes aged 20 to 36 years. The results suggested that 1mg of lorazepam has similar central depressant effects to 5mg diazepam and that these effects are less than those common with 100mg of quinalbarbitone. 5 references. (Author abstract modified)

**102349** Bram, G.; Shanmuganathan, N. Mableton Hospital, Dartford, Kent, England An evaluation of tofenacine (Elamol), a new drug for the treatment of depression. *Current Therapeutic Research*. 13(10):625-630, 1971.

The results of a clinical assessment of tofenacine hydrochloride (Elamol) used in treating patients suffering from all forms of depression are presented. The evaluation was conducted in 2 groups, the first being a quantitative study using a rating scale and the second study based on the retrospective assessment of the effect of the drug on patients randomly selected. It was concluded that Elamol was more successful in the treatment of neurotic and mixed depressions; the results in the treatment of endogenous depressions and phobic anxieties were promising although based on too small a sample to be valid. When improvement occurred it was noticeable in most cases within 2 week after initiation of treatment. The peak of improvement was reached in 5 to 6 weeks. Side effects were minimal in terms of frequency and severity and were unrelated to dosage. 2 references. (Author abstract modified)

**102577** Tanghe, A.; Vereecken, M. Psychiatric Hospital 'Sancta Maria', Noordwijkerhout, The Netherlands Clinical and ergotherapeutic evaluation of fluspirilene (R 6218), a long-acting injectable neuroleptic, in chronic psychotic patients. *Psychiatria, Neurologia, Neurochirurgia (Amsterdam)*. 74(5):379-389, 1971.

A clinical and ergotherapeutic evaluation of fluspirilene, a new diphenylbutylpiperidine derivative, was made in 56 chronically hospitalized female patients with residual schizophrenia ranging in age from 21-80 years. The median duration of hospitalization was 24 years. A 9 point rating scale was employed for the assessment of antipsychotic effects and behavioral changes and a 5 item scale for ergotherapeutic evaluation. The

severity of side effects was also recorded. In addition, the nursing personnel monthly reported on behavioral changes and side effects. The optimum weekly dose of fluspirilene was 5-20mg intramuscularly. Statistical evaluation of the results showed significant improvement for all items of the 9 point rating scale except for toilet habits and occupation, the most striking improvement occurring in the areas of mutism, autism, contact and activity. Analysis of the total scores of behavior during ergotherapeutic sessions also revealed statistically significant improvement. Side-effects were less severe and less frequent in comparison with previous neuroleptic medication. Extrapyramidal effects, if they occurred, responded well to simultaneous injection of 0.125-0.375mg of dexbenzotimide. 17 references. (Author abstract modified)

**102654** Chudina, L.D. Moskovskaja psikhiatricheskaja klinicheskaja bol'nitsa No.15, Moscow, USSR /Treatment of schizophrenic patients with sidnocarb./ *Lechenie bol'nykh shizofreniei sidnokarbom. In: Semenov, S., Voprosy kliniki i terapii psikhicheskikh zabolevanii. Moscow, Ministerstvo Zdravookhraneniia SSSR, 1971.276 p.(p.75-79).*

Sidnocarb reduces the soporific effect of barbiturates, eliminates the sedative action of meprotran, and potentiates the hyperthermic effect of phenamine while increasing its toxicity simultaneously, according to experimental research on laboratory animals. In order to ascertain the indications and contraindications for its administration to schizophrenic patients with predominant motor or affective inhibition in the clinical picture, sidnocarb was given to 18 patients with simple (4) and catatonic (14) forms of the disease. Sidnocarb was found to be therapeutically effective in simple schizophrenia, even when it was administered in relatively small dosages. In the treatment of patients with catatonic stupor, the preparation had no therapeutic effect and led to the emergence of catatonic excitation and to the reinforcement of hallucinatory paranoid experiences.

**103325** Keskiner, A.; Itll, T.M.; Han, T.H.; Saletu, B.; Hsu, W. Dept. of Psychiatry, Univ. of Missouri School of Medicine, Missouri Institute of Psychiatry, 5400 Arsenal St., St. Louis, Missouri 63139 Clinical toxicological and electroencephalographic study with SCH-12,679 in chronic

schizophrenics. *Current Therapeutic Research*. 13(11):714-725, 1971.

A study is presented which aimed to assess the safety, dose tolerance range, and possible central nervous system and clinical therapeutic effectiveness of the chronic oral administration of SCH-12,679, a new compound. SCH-12,679 obviously has a central effect on humans based on clinical and quantitative electroencephalographical investigations with chronic schizophrenics. This effect starts in relatively low dosages and seems, in some patients, to be sedative. However, in higher dosages, particularly with 360mg, daily, stimulation was observed clinically and electroencephalographically. The investigation demonstrated that SCH-12,679 is not a classical neuroleptic compound, and not a tranquilizer. It is suggested that further studies be carried out with the drug in acute schizophrenic populations and behaviorally disturbed children. Particularly the decrease of epileptic activity might be of importance in the study of behaviorally disturbed children with epileptic activity. 18 references. (Author abstract modified)

103326 Singh, A.N. Northeastern Regional Mental Health Centre, P.O.Box 1720, South Porcupine, Ontario, Canada Evaluation of clinical efficacy of pimozide as maintenance therapy in chronic schizophrenic patients. *Current Therapeutic Research*. 13(11):695-705, 1971.

Pimozide proved to be an effective new neuroleptic maintenance therapy when administered orally once a day in chronic schizophrenic patients. The transition from the previous therapy to pimozide was accomplished without a washout period uneventfully. The study also shows that pimozide is safe in therapeutic dose and is a potent psychostatic drug. EEG findings suggests a cortical activation effect on the patients who respond to the treatment, while no noticeable changes in EEG have been shown in patients who failed to respond. The different neurophysiological mechanism responsible in pimozide as compared to classical phenothiazine compounds, is pointed out. 12 references. (Author abstract modified)

103327 Sugerman, A.A. New Jersey Bureau of Research in Neurology and Psychiatry, Princeton, New Jersey A pilot study of pimozide in chronic schizophrenic patients. *Current Therapeutic Research*. 13(11):706-713, 1971.

Pimozide, a neuroleptic of novel chemical structure, was tested in 5 chronic schizophrenic male patients by substitution for standard medication given in optimal dosage. All 5 patients were found previously to show signs of clinical deterioration within 2 weeks of withdrawal of standard medication. Additional beneficial effects of pimozide in maximum doses of 12 to 30mg daily, given as a single daily dose, ranged from almost zero to marked; however, all patients showed either maintenance of their previous status or improvement while on pimozide, with rapid worsening when pimozide was withdrawn. Except for tremors and akathisia, side effects of pimozide were less than those of standard medication. Drowsiness, in particular, was not a notable side effect. Pimozide appeared to be most useful in patients showing primary symptoms of schizophrenia without disturbed behavior, and it is not recommended for use initially in patients showing overactivity, excitement, agitation, or aggressive behavior. 9 references. (Author abstract)

104226 Konig, Liesbeth; Lange, Ehrig; Mucha, Heinz; Winkler, Jurgen; Kunath, Bernhard. Neurologisch-Psychiatrische Klinik der Medizinischen Akademie 'Carl Gustav Carus,' 8019 Dresden, Fetscherst. 74. Germany /Clinical possibilities of the evaluation of pharmacotherapy, investigated by testing the effectiveness of the neuroleptic drug Pimozide./ Klinische Möglichkeiten der Therapiebeurteilung in der Pharmakotherapie am Beispiel der Wirksamkeitsprüfung eines neuen Langzeit-Neuroleptikums 'Pimozide.' *Psychiatrie, Neurologie und medizinische Psychologie (Leipzig)*. 23(6):359-367, 1971.

Clinical testing of Pimozide, a diphenylbutylpiperidin derivative and a new neuroleptic drug with a 24 hour effectiveness is discussed. The AMP system was used for quantitative analysis of psychopathological phenomena and for testing side-effects of the drug. Documentation of psychological, sociopsychiatric, and electrophysiological research data was integrated and correlated with the aid of electronic data processing. Difficulties of the evaluation of psychiatric therapy, psychopharmacology, and inadequate laboratory facilities are other topics of discussion. 45 references. (Author abstract modified)

104438 Fieve, Ronald R.; Meltzer, Herbert L.; Taylor, Reginald M. Dept. of Internal Medicine, N.Y. State Psychiatric Inst., 722 W. 168 St., New

York, N.Y.10032 Rubidium chloride ingestion by volunteer subjects: initial experience. *Psychopharmacologia (Berlin)*. 20(4):307-314, 1971.

The first metabolically controlled longitudinal study of rubidium chloride (RbCl) administered to humans is reported. Four subjects were given doses of 8.2-12.4 meq. RbCl in a single day, and biological half lives calculated from urinary excretion ranged from 21-55 days. A long-term study of chronic rubidium loading in one of these subjects demonstrated no undesirable clinical side effects. After ingestion of a total dose of 268 meq. within a period of 75 days a plasma level of 0.16 meq./liter rubidium was obtained. Urinary excretion proceeded at a rate consistent with a 50 day half life. The potential usefulness of RbCl for modification of human behavior and affect is discussed. Previous animal studies reported that chronic ingestion of RbCl resulted in alteration of behavior and electroencephalogram. 18 references. (Author abstract modified)

105535 Shulgin, A.T.; Sargent, T.; Naranjo, C. 1483 Shulgin Road, Lafayette, California 4-Bromo-2,5-dimethoxyphenylisopropylamine, a new centrally active amphetamine analog. *Pharmacology*. 5(2):103-107, 1971.

A new centrally active halo-amine derivative of the amphetamine molecule, 4-bromo-2,5-dimethoxyphenylisopropylamine, is described and results of animal experiments and clinical trials are reported. Toxicity studies were conducted on animals, while investigations with human subjects were made to determine the effects of the drug on intellectual and emotional thinking, as well as on the level of fluency and attention while maintaining full communication capabilities. Clinical results indicate enhanced emotional and intellectual perception, without the imagery and perceptual distortions commonly encountered with many of the chemically related psychotomimetics. These properties suggest a potential valuable role in conjunction with psychotherapy. 15 references. (Author abstract modified)

105825 Bilikiewicz, A.; Gora, S. Department of Psychiatry, School of Medicine, Gdansk, Poland Clinical and pharmacological investigation of a new psychotropic drug Sulpiride (Dogmatil). *Activitas Nervosa Superior (Praha)*. 13(3):183-184, 1971.

Sulpiride is a psychotropic drug with a thymoanaleptic and psychoenergizing action and a predominantly symptomolytic effect. The drug is

well tolerated and does not produce extrapyramidal and autonomic side effects. Pharmacological investigation with the drug in 14 patients with endogenous depression and schizophrenic psychosis revealed the suppression of inhibition and improvement in activity. In a study with 96 rats and controls, sulpiride was not found to exert an essential influence on the body temperature of the control animals or animals with increased or lowered level of catecholamines and serotonin in the nervous system. The drug increased the hyperthermic action of dl-amphetamine and decreased the same action of chlorpromazine, probably due to its psychoenergizing effect.

107547 DiMascio, Alberto; Shader, Richard I. Department of Mental Health, Boston, Massachusetts Butyrophenones in psychiatry. New York, Raven Press, 1971. 150 p. \$9.75.

An overview of the clinical experience gained in the use of the butyrophenones in the treatment of psychiatric disorders is presented. Specific chapters deal with: pharmacologic and metabolic properties; outpatient treatment; the use of butyrophenones in the acutely agitated or manic patient; treatment of chronic schizophrenia; haloperidol in the treatment of geriatric patients; haloperidol in neurologic patients; extrapyramidal and cardiovascular side effects; and summation and potential indications.

110474 Janus, Tadeusz; Szmid, Jozef; Weselucha, Piotr. III Klinika Chorob Wewnętrznych AM. Krakow, Poland /Lidanil -- a new tranquilizing agent in the clinic of internal diseases./ Lidanyl -- nowy lek kojacy w klinice chorob wewnętrznych. *Przegląd Lekarski (Warsawa)*. 28(10):663-666, 1971.

Lidanil, a new tranquilizer produced by Sandoz, was assessed in the psychosomatic department of a clinic of internal diseases with approximately 120 patients. It proved to be an effective drug in duodenal ulcer and in cardiovascular dystonia. It also proved successful in cases of neurosis accompanied by neurovegetative dystonia, where it produced a marked decrease in the manifestations of the disease. Lidanyl was relatively ineffective in cases of neurotic complexes accompanied by parasitic illness of serious inflammation of the biliary passages. The positive results obtained in all cases of hypothyreosis suggest that it should be tested in endocrinological diseases. 4 references. (Author abstract modified)

112538 Decker, Bruce L.; Davis, John M.; Janowsky, David S.; El Yousef, M.Khaled; Sekerke, H.Joseph. Tennessee Neuropsychiatric Institute, Nashville, Tenn. Amantadine hydrochloride treatment of tardive dyskinesia. *New England Journal of Medicine*. 285(15):860, 1971.

Amantadine hydrochloride was administered to 6 postmenopausal women to determine its efficacy in the treatment of chronic schizophrenia with tardive dyskinesia. These patients had received large amounts of antipsychotic agents during the past years and intermittent, rhythmic protrusion of the tongue, retrocolic dystonia, choreoathetoid movements of the toes, feet, fingers, and hands and anteroposterior rocking of the trunk had developed. All these symptoms had not responded to antiparkinsonian drugs. Patients were observed for 4 days before amantadine hydrochloride was administered and rated twice daily for their specific types of involuntary movements. They were given 300mg of amantadine hydrochloride daily in 3 divided doses for 1 week while being maintained on their established regimens of antipsychotic and antiparkinsonian drugs. Amantadine hydrochloride was discontinued after 1 week, and the patients were observed and rated for their dyskinesias for an additional week. Complete cessation or statistically significant reduction of dyskinetic movements was apparent in all patients within 4 days after the initiation of treatment, and movements were noted to return to or to approach pretreatment levels within 3 days after the drug was stopped. 4 references.

117683 Presthus, Jan. Department of Neurology, Ullevaal Hospital, Oslo, Norway BC 105 and methysergide (Deseril) in migraine prophylaxis. *Acta Neurologica Scandinavica (Kobenhavn)*. 47(4):514-518, 1971.

The value of BC-105 (4-(1-methyl-4-piperidylidene)-9,10-dihydro-4H-benzo (4,5) cyclohepta (1,2-b) thiophene) and methysergide (Deseril) in migraine prophylaxis has been compared in a double-blind cross-over trial with 19 patients. The sequence of the drugs was randomized. No statistically significant difference in the effect of the two drugs could be shown in regard to the number of headache attacks, the intensity of pain, and the duration of headache attacks. Five patients felt most comfortable on BC-105 and seven on methysergide. When using BC-105 three patients complained initially of fatigue, and 14 patients gained weight from 1.5-7.5kg. The study indicates that the effect of BC-105 may be equal to

methysergide in migraine prophylaxis. 8 references. (Author abstract)

121457 Sollai, Giuseppe. Ospedale Neuropsichiatrico Provinciale di Arezzo, Italy /Clinical study of the effect of sustained release thioridazine in long-term psychiatric hospital patients./ Contributo clinico sull'azione della thioridazina retard su lungodegenti in ospedale psichiatrico. *Rassegna di Studi Psichiatrici (Siena, Italy)*. 60(6):848-864, 1971.

Oral administration of sustained release thioridazine, in daily doses of 200mg for three to six months, to 48 hospital patients with long histories of chronic psychiatric disorders including phrenasthenia, oligophrenia, dementia senilis and schizophrenia, induced very good improvement in five patients, good improvement in 24 and satisfactory improvement in 15. Four patients failed to respond to treatment. The compound was particularly effective against sleep, behavior and affective disorders, psychomotor agitation, incoherent speech, hallucination, delirium, apathy, hostile social attitude, environmental maladjustment, mannerism, anxiety, abulia, autism, negativism and psychomotor inhibition. Thioridazine was particularly effective in improving sleep, aggression and excitation demonstrated by patients with phrenasthenia. Patients with schizophrenia exhibited improvement of sleep, affective and behavior disorders, hallucinations, delirium and autism. Almost all patients had improved attention and social adjustment. Side effects common to other neuroleptics were not evident. 21 references.

121753 Privat, Y.; Bonniol, J.P. Consultations Dermatologie, Hopital Nord, F13, Marseille-15, France /A psychodermatological study of a combination of two compounds resulting in a mixed reaction, antidepressive and tranquilizing (amitriptyline + perphenazine)./ Etude en psychodermatologie de deux associations a action mixte, antidepressive et tranquillisante (amitriptyline + perphenazine). *Therapeutique (Paris)*. 47(10):861-866, 1971.

The concomitant presence of psychiatric and dermatological disturbances may occur quite frequently in patients with anxiety or depression. The precipitation of a dermatosis by anxiety is explained as a phenomenon called 'body language.' Neurotic manifestations are seen in many types of skin diseases, manias (trichotillomania)

and phobias (parasitophobia). Certain types of pruritus are undoubtedly a manifestation of anxiety. A dermatitis may appear as a defense mechanism against anxiety, and if treated for itself, may precipitate an underlying depression. It is for these reasons that Mutanxion (10mg amitriptyline and 4mg perphenazine per tablet) and Mutaspline (25mg amitriptyline and 2mg perphenazine) were used to treat 128 patients with dermatosis. The predominant action in the first was that of the sedative and anxiolytic compound, and that of the second, the antidepressive action of amitriptyline. The dermatologic medication was reduced to a minimum. The dosage was generally three tablets daily for 3 to 4 weeks. The patients were separated into the appropriate groups according to whether anxiety or depression predominated. About 90 patients showed satisfactory improvement in their dermatologic symptoms, and 92 appeared to have improved in their psychiatric symptoms. Somnolence was evident with Mutanxion at the outset but disappeared later, and some patients complained of dryness of mouth with Mutaspline.

**123890** Wiszczor-Adameczyk, Bronislawa; Koslacz-Folga, Anna. Instytut Matki i Dziecka, Kasprzaka 17, Warsaw, Poland /Observations on the effect of tegretol in 'salaam' seizures in children./ Spostrzeżenia nad działaniem tegretolu w napadach zgłciowych u dzieci. *Neurologia i Neurochirurgia Polska* (Warszawa). 5(3):339-344, 1971.

Carbamazepine was used for the treatment of 14 children with 'salaam' seizures. The children ranged in age from two months to 10 years, and treatment lasted for two months. Organic damage to the central nervous system together with disturbances of psychomotor development and cerebral palsies were present in all the children. Carbamazepine, especially in combination with phenobarbital, had a primarily anticonvulsive action, while its effects on the improvement of psychomotor development and modification of electroencephalographic patterns were less marked. Discrepancies between clinical findings and bioelectric phenomena may be a result of an overly brief observation period and of the dynamics of a pathological process caused by extensive and early damage to the central nervous system. 19 references. (Author abstract)

**123891** Bilikiewicz, Tadeusz; Bilikiewicz, Adam. Klinika Chorob Psychiczych AM, Debinki 7,

Gdansk, Poland /Results of treatment of dysthymic attacks with carbamazepine./ Wyniki leczenia karbamazepina napadów dystymicznych. *Neurologia i Neurochirurgia Polska* (Warszawa). 5(3):345-350, 1971.

Clinical administration of carbamazepine has shown this drug to be a most effective agent in the treatment of temporal lobe seizures and particularly in the treatment of dysthymic attacks. Of 34 patients with dysthymic attacks, complete elimination of the attacks was attained in 22 and a significant decrease in their frequency, in 11. Amizepin, the Polish equivalent of carbamazepine, is equally as potent and as therapeutically effective as the foreign drug in cases of dysthymic attacks. The drug is well tolerated and was not found to cause any significant side effects when administered in dosages up to 1,000mg daily. It can be combined successfully with other anticonvulsants, and it has been shown to relieve epileptic characteropathic symptoms in cases without overt epileptic seizures but with electroencephalographic seizure activity. 7 references. (Author abstract modified)

#### 08 DRUG TRIALS IN SCHIZOPHRENIA

**069197** Prien, Robert F.; Levine, Jerome; Switalski, Richard W. Central Neuropsychiatric Laboratory, Veterans Administration Hospital, Perry Point, Maryland Discontinuation of chemotherapy for chronic schizophrenics. *Hospital and Community Psychiatry*. 22(1):4-7, 1971.

The investigation reported here was an attempt to identify subgroups of chronic schizophrenics with a sufficiently low probability of relapse to warrant discontinuation of medication. Major emphasis was placed on the possible predictive value of such variables as length of hospitalization, age, severity of illness, and type and dose of previous medication. In all but 1 of the 7 hospitals, patients on low doses of prestudy medication had a lower relapse rate on placebo than patients on moderate or high doses. The results indicate that the large majority of schizophrenics who have been hospitalized for more than 15 years and who are receiving low doses of tranquilizing medication can remain off drugs for 6 months without deleterious effects. Short stay patients and patients receiving moderate or high doses showed relatively high relapse rates when drugs were discontinued suggesting that public mental hospitals should pay more attention to

chronic schizophrenics. A workable dose reduction program could result in sizable financial savings for the hospital and less risk of toxicity for the patient. 14 references. (Journal abstract)

**074814 Campbell, Magda; Fish, Barbara; Shapiro, Theodore; Floyd, Arthur, Jr. 550 First Avenue, New York, New York 10016 Study of molindone in disturbed preschool children. *Current Therapeutic Research*. 13(1):28-33, 1971.**

A study of molindone hydrochloride (En-1733A) in disturbed preschool children demonstrated that the drug was a potent neuroleptic agent in these severely disturbed children, producing improvement in 8 schizophrenic and 2 nonpsychotic children. Molindone had potent antipsychotic effects, and at higher doses, produced extrapyramidal symptoms. It resembled other less sedative neuroleptics used in this population. The therapeutically useful stimulant effects on affect and motility, combined with the neuroleptic effects of molindone, suggest that it may be useful for children whose disordered behavior requires potent drugs, but who are overly sedated by therapeutically effective levels of chlorpromazine. In this small pilot series, molindone was effective for the 2 nonpsychotic children. One had a severe behavior disorder characterized by hyperactivity, excitement and aggressive behavior, and the other had a chronic brain syndrome with apathy and underactivity. This suggests that molindone should be explored further in children with organic as well as functional behavior disorders, including those with prominent hyperactivity and those with a tendency to apathy and inertia. 12 references. (Author abstract modified)

**077430 Massac, Ch. H.; Pinard, G.; Cote, J. Y.; Tetreault, L. Hôpital St-Jean-de-Dieu, Montreal, Canada /Evaluation of the hypnotic properties of promethazine on chronic schizophrenics./ *Evaluation des propriétés hypnotiques de la prométhazine chez les schizophrènes chroniques. Internat. Zschr. für Klinische Pharmakologie, Therapie und Toxikologie*. 4(2):251-259, 1971.**

In a double-blind experiment, the hypnotic properties of promethazine at doses of 0 (placebo), 25 and 50mg on insomniac chronic psychotics were evaluated. Each individual subject was his own control and thus constituted a randomized block. The patients were further distributed into three equal groups according to their anxiety levels as measured by the Max Hamilton Anxiety

Rating Scale. The quantitative results thus obtained underwent variance analysis adapted to a split-plot design. The residual effect of the drugs was controlled directly by preceding each experimental night by 2 nights with chloral hydrate as hypnotic. A significant effect of promethazine on 2 of the 14 measures used was demonstrated: the duration and the quality of sleep. No significant effect of promethazine on the duration and quality of sleep induction, on the awakening period, nor on untoward effects the following morning was found. There was no significant interaction between the anxiety factor and the pharmacological factor. 7 references. (author abstract)

**077701 Janssen, Paul A. J. Janssen Pharmaceutica, Research Laboratories, Beerse, Belgium Drugs in schizophrenia. *British Medical Journal* (London). No. 5754:167, 1971.**

In a letter to the editor, the author comments on long acting neuroleptics for the treatment of schizophrenia. Prevention of drug evasion and hence of relapses is seen as the major concern in the management of schizophrenia. The drug Fluspirilene, a diphenylbutylpiperidine derivative, which is under trial in Europe, cannot be classed as a long acting phenothiazine.

**077822 Holden, J. M. C.; Itil, T. M.; Gannon, P. J.; Keskiner, A. Department of Psychiatry, University of Missouri School of Medicine, 5400 Arsenal Street, St. Louis, Missouri 63139 The clinical effects of intramuscular thiothixene and trifluoperazine in chronic schizophrenia: a comparative study. *Current Therapeutic Research*. 13(5):298-310, 1971.**

The effects of thiothixene given i.m. to a group of chronic schizophrenic patients were evaluated and compared with those of trifluoperazine in the same patients in a double-blind crossover study. The group comprised 14 schizophrenic patients who were placed on i.m. thiothixene after 2 weeks on oral placebo in increasing dosage (2 to 10mg b.i.d.) until the seventh day. At the end of the seventh day the patients were placed on oral placebo again for 2 weeks and i.m. trifluoperazine was then given in increasing doses (2 to 5mg b.i.d.) for another 7 days. This order was observed in 10 patients and the order of the drugs reversed for the other 4 patients. The patients were rated before receiving medication and on the second and seventh days of both drug treatment periods, and blood for laboratory testing was obtained be-

fore and after treatment. The results demonstrated that both parenteral thiothixene and trifluoperazine are effective psychotropic compounds and are superior in action to oral placebo in the treatment of schizophrenia. Thiothixene was shown to have some significant advantage over trifluoperazine therapy. The latter drug showed the more severe side-effects, which were mainly extrapyramidal. None of the laboratory deviations with either drug were sufficient to discontinue medication. Daily dosage levels are discussed. 34 references.

077913 Simpson, G. M.; Croll, D.; Lee, J. H. Early Clinical Drug Evaluation Unit, Rockland State Hospital, Orangeburg, New York An evaluation of metiapine in chronic schizophrenia. *Current Therapeutic Research*. 13(4):257-263, 1971.

The clinical efficacy of metiapine, (2-methyl-11-(4-methyl-1-piperazinyl)-dibenzo(b,f)(1,4)-thiazepine), was tested in 10 chronic schizophrenic patients at the Rockland State Hospital. The dosage range started at 30mg/day, increasing weekly to a maximum dose of 560mg/day. Of the 10 patients, all showed improvement in varying degrees at the midpoint of the study (duration of study was 20 weeks). During the final month of the study, 9 showed improvement and 1 was unchanged. Changes in improvement included mannerisms and posturing, hostility, suspiciousness, unusual thought content, and excitement during the first month of medication; and in conceptual disorganization during the second month. The most frequent side-effects were extrapyramidal in nature, most marked during the first 2 months of the trial. Dosage related increases were seen in manifestations of rigidity, tremor and Glabella Tap, and 2 patients required antiparkinson medication to control the effects. 4 references.

077932 Hollister, Leo E.; Overall, John E.; Katz, George; Higginbotham, Warren E.; Kimbell, Isham, Jr. Veterans Administration Hospital, Palo Alto, California Oxpertine and thiothixene in newly admitted schizophrenic patients. *Clinical Pharmacology and Therapeutics*. 12(3):531-538, 1971.

Seventy one newly admitted schizophrenic patients were treated with thiothixene or oxypertine. On the basis of previous, separate uncontrolled studies of these drugs, we had postulated that thiothixene would be more effective in paranoid

and oxypertine more effective in nonparanoid patients. Results from the present controlled study confirmed these hypotheses, suggesting that various categories of schizophrenic patients may respond differently to drugs. Oxypertine seemed to have a profile of action somewhat different from that of other types of antipsychotic drugs in that it was highly effective for depressed schizophrenic patients. 19 references. (author abstract)

078941 Brauzer, Benjamin; Goldstein, Burton J. Division of Research, Department of Psychiatry, University of Miami School of Medicine, Miami, Florida A clinical comparison of molindone hydrochloride with trifluoperazine in psychotic outpatients. *Current Therapeutic Research*. 13(3):152-157, 1971.

A double-blind controlled study was carried out in 25 ambulatory psychotic patients who were treated in an outpatient setting with either molindone hydrochloride or trifluoperazine. The length of treatment varied from 4 to 12 weeks and a flexible dose was used in a ratio of 2:1 (molindone to trifluoperazine). In the dose ranges utilized in this study, there were no statistically significant differences noted at the .05 level between the 2 treatment groups. However, there were indications that psychotic target symptoms respond in a more favorable way to trifluoperazine and symptoms of anxiety and depression respond more favorably to molindone. Side effects were quantitatively and qualitatively similar in both treatment groups. No major laboratory abnormalities occurred in either group. 8 references. (Author abstract)

078944 Gendron, Joseph L.; Schiele, Burtrum C. Department of Psychiatry, University of Minnesota Medical School, Minneapolis, Minnesota A pilot study on the use of AL-1021 in the treatment of acute schizophrenics. *Current Therapeutic Research*. 13(3):169-173, 1971.

A new butyrophenone derivative, AL-1021, in a pilot study of 10 newly admitted schizophrenic patients, appeared to be a rapidly effective antipsychotic agent with very manageable side effects. The most effective dosage range seemed to be 200 to 300mg. The therapeutic potential of this drug was impressive and a further double-blind controlled trial comparing AL-1021 to chlorpromazine is in progress. 1 reference. (Author abstract modified)

**085015 Spohn, Herbert, E.; Thetford, Paul E.; Cancro, Robert.** Research Department, The Menninger Foundation, Topeka, Kansas 66601 The effects of phenothiazine medication on skin conductance and heart rate in schizophrenic patients. *Journal of Nervous and Mental Disease*. 152(2):129-139, 1971.

The effects of chronically administered phenothiazine medication upon aspects of skin conductance (SC) and heart rate (HR) in 32 schizophrenic patients were assessed in 2 ways. Skin conductance scores obtained during rest and during the performance of a series of span of apprehension tasks were correlated with a phenothiazine dosage index (PDI), representing chlorpromazine equivalent daily dosage. For 15 schizophrenics withdrawn from medication for 3 months and for 9 normal controls pre and post-withdrawal rest and performance scores were obtained and compared by repeated measurement analyses of variances. Results, congruent with other studies, indicate that phenothiazines reduce SC level, elevate HR and restrict frequency of specific and nonspecific reactivity in SC and range of variability in HR. Moreover, it was shown that several of these effects are linearly related to daily dosage level. The implications of these findings for past and future uses of autonomically mediated psychophysiological variables in the study of phenothiazine treated schizophrenic disorders are discussed, as well as the applicability of the PDI in controlling statistically drug dosage contaminated psychophysiological variance. 15 references. (Journal abstract)

**085689 Hussain, Z. Moose Jaw, Saskatchewan, Canada Polypharmacy: data and conclusions.** *American Journal of Psychiatry*. 127(9):1235, 1971.

A letter to the editor disagrees with the conclusions reached in Merlis' 'Polypharmacy in Psychiatry: Patterns of Differential Treatment.' It is shown that the data do not support the finding that polypharmacy is an inadequate treatment procedure. Instead the conclusion must be that polypharmacy was very satisfactory in female schizophrenics and drug treatment as a whole was inappropriate in male schizophrenics. The editorial responsibility of a scientific journal is pointed out. 1 reference.

**086521 Case, W. George; Ryder, Blair L.; Dhopeswarkar, Vasant P.; Pereira-Ogan, Jorge A.; Rickels, Karl.** Department of Psychiatry, University of Pennsylvania, Philadelphia, Pennsylv-

ania 19104 Clomacran and chlorpromazine in psychotic outpatients: a controlled study. *Current Therapeutic Research*. 13(6):337-343, 1971.

A comparative double-blind study is presented in 49 schizophrenic outpatients receiving either clomacran (an acridan derivative) or chlorpromazine. The duration of the study was 2 months; the patients were seen by the treating physician prior to the study and subsequently at 2 week intervals. Of the 49, 20 patients remained in the study at the end of the 8 weeks (9 dropped by physician and 20 dropped out on their own accord). According to the physician's global rating, 4 clomacran patients showed maximal and 5 moderate improvement, while 2 chlorpromazine patients showed maximal and moderate improvement. Three patients from each group showed slight improvement. Only one patient on each drug did not complete the study due to alleged side-effects. 5 references.

**086937 Holden, J. M. C.; Itil, T.; Keskiner, A.; Gannon, P.** Department of Psychiatry, University of Missouri School of Medicine, 5400 Arsenal St., St. Louis, Missouri A clinical trial of an antiserotonin compound, cinanserin, in chronic schizophrenia. *Journal of Clinical Pharmacology*. 11(3):220-226, 1971.

The clinical spectrum of neuropsychiatric action and side-effects of cinanserin was investigated in 16 adult schizophrenic patients. The drug was given orally (50mg daily) after a 4 week placebo treatment period and slowly increased to a dose of 800mg daily. The treatment period lasted 6 weeks and was followed by another 4 week period of placebo treatment in patients not responding to the drug. Patients were evaluated every 2 weeks by a Global Rating Scale and blood and urine chemistry, and EKG and EEG were monitored. No significant changes in the global scores were seen during the trial period, although scores for depression, excitement, guilt, disorientation, hallucinations and anxiety decreased at least 10%. Scores for emotional withdrawal and blunted affect increased markedly. Marked clinical deterioration was seen in 4 patients following withdrawal of the drug. Some increase in white cell counts was noticed in 8 patients. Further studies of the drug are suggested with psychiatric patients with schizophrenic or manic symptomatology. 29 references.

087033 Simpson, George M.; Amin, Mohammed; Edwards, J. Guy. Department of Psychiatry, Bergen Pines Hospital, Paramus, New Jersey A double-blind comparison of molindone and trifluoperazine in the treatment of acute schizophrenia. *Journal of Clinical Pharmacology and New Drugs*. 11(3):227-236, 1971.

The results of this double-blind comparison with trifluoperazine confirm the earlier studies on molindone, i.e., that it is an active antipsychotic agent. When used in the treatment of acute schizophrenia, it produces results similar to those of trifluoperazine after 4 weeks of treatment, but it is less active at 2 weeks. Unwanted effects were similar in type for both drugs but were significantly more prevalent in the trifluoperazine group. A more definite study would require a larger sample size and possibly a larger dose of molindone. 12 references. (author abstract)

087267 McIndoo, Mary V. 109 Bee Street, Charleston, South Carolina 29403 A controlled study of mesoridazine: an effective treatment for schizophrenia. *Southern Medical Journal*. 64(5):592-596, 1971.

A double-blind study was conducted of placebo or mesoridazine administered orally to 80 schizophrenic patients who had been sick on the average of 151 months (12.5 years). The Brief Psychiatric Rating Scale (BPRS) and Nurses' Observation Scale for Inpatient Evaluation (NOSIE) were used to record changes in patients' conditions. Patients treated with mesoridazine had improvement for all 16 items of the BPRS. In addition, the differences between a mean change in ratings for mesoridazine patients favored these patients over the placebo group for all 16 items of the BPRS. Observations made with the NOSIE were less explicit and consistent, presumably because of the variable associated with changing raters. A number of side-effects were reported by patients taking mesoridazine or placebo. 9 references. (author abstract)

088265 Hedberg, David L.; Houck, John H.; Glueck, Bernard C., Jr. Institute of Living, 200 Retreat Ave., Hartford, Conn. 06103 Tranylcypromine-trifluoperazine combination in the treatment of schizophrenia. *American Journal of Psychiatry*. 127(9):1141-1146, 1971.

Ninety six schizophrenic patients participated in a double-blind, crossover study of the efficacy of trifluoperazine and tranylcypromine therapy alone

and in combination. Pseudoneurotic patients had a statistically significant response to tranylcypromine; paranoid (chronic undifferentiated) patients responded best to the combination therapy. The use of computer derived profiles of patients' symptom clusters rather than their diagnoses is urged to ensure selection of the optimum drug therapy. 10 references. (Author abstract modified)

089300 Strzyzewski, Włodzimierz; Drogowski, Marian. Klinika Psychiatryczna AM, ul. Szpitalna 27/33, Poznań /Flupentixol (Fluanxol) in the treatment of apathic syndromes of schizophrenic origin./ Flupentiksol (Fluanxol) w leczeniu zespołu apatycznego pochodzenia schizofrenicznego. *Psychiatria Polska (Gdańsk)*. 5(2):207-210, 1971.

Fluanxol (flupentixol) was used in 30 patients (14 men and 16 women) with apathic syndromes of schizophrenic origin. The drug was administered in daily doses of 3 to 6mg over an average period of 43 days. Positive therapeutic effects observed in 22 patients consisted mainly of improvement of the psychomotor drive, regulation of mood, better affective modulation and increase of interest. No side-effects of fluanxol were observed. 9 references. (author abstract)

089303 Strzyzewski, Włodzimierz; Zakowska-Dąbrowska, Teresa. Klinika Psychiatryczna AM, ul. Szpitalna 27/33, Poznań /Thiothixene (Navane) in the treatment of apathic syndromes of schizophrenic origin./ Tiotiksen (Navane) w leczeniu zespołów apatycznych pochodzenia schizofrenicznego. *Psychiatria Polska (Gdańsk)*. 5(2):189-192, 1971.

Thiothixene (Navane) was administered to 15 patients (11 men and 4 women) with apathic syndromes of schizophrenic origin in daily doses of 30 to 40mg over a period of 24 to 50 days. Positive therapeutic effects were observed in 9 cases, especially in patients with a short history (2 to 3 years). The favorable action of the drug was confirmed especially in regard to disorders of psychomotor activity and emotional disturbances. Thiothixene was well tolerated by the patients studied. 11 references. (author abstract)

091370 Franzen, G. St. Lars Hospital, S-220 06 Lund, Sweden. Serum cortisol in chronic schizophrenia: a study of the adrenocortical response to intravenously administered insulin and ACTH. *Acta Psychiatrica Scandinavica (København)*. 47(1):82-91, 1971.

The effect of an intravenous injection of insulin (0.1 I.E./kg body weight) and ACTH (30 I.U.) on serum cortisol on 10 chronic, schizophrenic female patients of postmenopausal age was studied. For a long period of time, these patients were psychiatrically rated using the RP scale according to Rockland & Pollin (1965). All patients had been under psychopharmacological therapy for an extended period of time. An obvious and distinct rise in serum cortisol after insulin as well as ACTH injections was established. There was a correlation between a rated degree of thought disorder and the basal value of serum cortisol, which proved to be independent of the pharmacological treatment. Unspecific behavioral symptoms as well as more specific schizophrenic symptoms (thought disorders and hallucinations) showed correlations with the cortisol response to ACTH. However, it could not be excluded that psychotropic drugs have a certain influence, particularly on the blood sugar levels and on the cortisol response to insulin. A more detailed study of this problem is indicated. 22 references. (Author abstract)

092770 Rosen, Bernard; Engelhart, David M.; Freedman, Norbert; Margolis, Reuben; Klein, Donald F. Research Department, Hillside Hospital, 75-59, 263rd Street, Glen Oaks, New York 11004 The hospitalization proneness scale as a predictor of response to phenothiazine treatment. *Journal of Nervous and Mental Disease*. 152(6):405-411, 1971.

To explore the influence of personality factors on response to phenothiazine treatment, the relationship between the hospitalization proneness scale (HPS) and the effectiveness of phenothiazine treatment in delaying hospitalization for those patients hospitalized during the course of their clinic treatment was examined. The 129 hospitalized patients were part of a larger cohort of 446 chronic schizophrenic outpatients randomly assigned to placebo, promazine, and chlorpromazine and treated under double-blind conditions. The patients in this sample were hospitalized after from 1 to 114 months of continuous outpatient treatment. The patients were divided into hospitalization prone and nonprone groups on the basis of the HPS. The HPS consists of measure of the patient's effectiveness in social interactions, cognitive performance, and social attainment assessed at intake. The findings indicate that the number of months the patient was able to remain in outpatient treatment prior to hospitalization is the result of an interaction

between the specific drug received and level of HPS score. A multiple range test indicated that among prone patients, those treated with either chlorpromazine or promazine remained in treatment for a significantly longer period of time than comparable placebo treated patients. On the other hand, nonprone patients treated with chlorpromazine were hospitalized after a significantly shorter period of time than nonprone patients treated with either placebo or promazine. In addition, chlorpromazine treated nonprone patients were hospitalized significantly earlier than chlorpromazine treated prone patients. The results were discussed in terms of the relationship between the personality attributes measured and the sedative characteristics of the drugs employed. The implications of the findings to drug treatment and future research were also discussed. 18 references. (Author abstract)

093799 no author. author address not given Schizophrenia -- tying up more loose ends. *World Medicine (London)*. 6(16):54-55, 1971.

Further developments in research on schizophrenia are reported; in particular, the work and hypotheses of Drs. Larry Stein and C. David Wise of Wyeth Laboratories are explained. They suggest that some of the current biochemical theories may be incorrect. In one area, it is questioned whether mescaline like substances can be responsible for schizophrenic mental abnormalities in view of the fact that they do not induce a model psychosis. Other factors explored include the actions of various drugs including the antischizophrenic substance, chlorpromazine; and the possible role of 6-hydroxydopamine in development of schizophrenia.

095150 Mattke, D. J.; Adler, M. Max Planck Institut für Psychiatrie, München, West Germany Mode of action of D-penicillamine in chronic schizophrenia. *Diseases of the Nervous System*. 32(6):388-391, 1971.

In a double blind trial on 30 chronic schizophrenics the therapeutic effect of D-penicillamine on ward behavior was evaluated. There was a statistically significant improvement in ward behavior ratings in patients treated with D-penicillamine. Precautions in the interpretation of this finding are discussed. Secondary biochemical data are reported. 14 references. (Author abstract)

095156 Maller, O.; Heller, S. Pardessia Government Psychiatric Hospital, Pardessia, Israel Neutralization of extrapyramidal side effects with methixene. *Diseases of the Nervous System*. 32(6):409-415, 1971.

A study is presented which tested the effectiveness of methixene, a newly evolved antiparkinsonian product, to avoid extrapyramidal side-effects found in certain psychoplegics. A 5 stage study was made with 41 patients selected out of a population of chronic psychotics undergoing therapy with various major tranquilizers whose extrapyramidal side-effect were previously controlled by trihexyphenidyl. It was found that: methixene can influence the extrapyramidal symptoms better in patients younger than the fourth decade of life and relatively free of degenerative alterations of the cerebrovascular system; it seems that methixene controlled fist-blocking, tremor, associated movements in this order; after interruption of medication, 51% of the patients remained free of extrapyramidal symptoms, for the rest of the observation period (129 days) and 49% had symptoms return after 74 days. 11 references.

095221 Schooler, Nina R.; Boothe, Helvi; Goldberg, Solomon C. Psychopharmacology Research Branch, National Institute of Mental Health, Parklawn Bldg., 5600 Fishers Lane, Rockville, Maryland 20852 Life history and symptoms in schizophrenia. *Archives of General Psychiatry*. 25(2):138-147, 1971.

Data regarding social background of 480 newly hospitalized schizophrenic patients were gathered by social workers as part of a multihospital study of phenothiazine effectiveness. Ninety seven specific characteristics were examined in relation to clinical ratings of symptom severity at hospitalization. Aspects of patients' childhood family background and circumstances surrounding the process of hospitalization were related to symptom severity at the point of hospitalization, but the amount of improvement seen after five weeks of treatment was related to variables which measured level of role functioning and attainments. Where treatment effects were seen, response to fluphenazine hydrochloride was more marked among patients who showed characteristics traditionally regarded as unfavorable. Acetophenazine maleate served to enhance the effects of favorable prognostic indicators. 7 references. (author abstract)

095478 Boulton, Alan A. Psychiatric Research Unit, University Hospital, Saskatoon, Saskatchewan, Canada Biochemical research in schizophrenia. *Nature (London)*. 231(5297):22-28, 1971.

Biochemical abnormalities which might be characteristic of schizophrenia are reviewed, and the general role of the biochemist in attempts to obtain a better understanding of schizophrenia and the processes leading to the condition is described. Schizophrenia is an inexact term that may well describe several separate disease entities; the biochemist's work is made even more difficult by the imprecise nature of the psychiatric diagnosis and meaning of schizophrenia. One of the two areas of greatest recent activity in the biochemical approach to an understanding of schizophrenia is that of 3,4-dimethoxyphenyl ethylamine (DMPE) or, more generally, the phenylethylamines. DMPE has been known in some cases to exacerbate psychotic symptoms; studies are reported also of its occurrence in the urine of schizophrenics. Because of its potential in the etiology of schizophrenia, many studies of the effects of DMPE in animals are under way. The indoleamines are another broad area of inquiry. Indolic substances have been clearly implicated in some conditions which are often accompanied by mental disturbances. Many psychotomimetic substances have an indole nucleus and can lead to exacerbation of psychotic symptoms. The search in this area is for the elusive toxic psychotogen. Other evidence -- skin discoloration, associated eye pathology, and especially abnormality in schizophrenic plasma -- is also reviewed. 191 references.

095536 Gallant, Donald M.; Bishop, Melvin P.; Free, Spencer M., Jr.; Goldberg, Solomon C.; Simpson, George M. Tulane University School of Medicine, New Orleans, Louisiana Evaluation of efficacy of psychotropic agents in schizophrenic populations: methodological procedures. In: Levine, J., *Principles and problems of psychotropic agents*. Washington, U.S. Government Printing Office, 1971. 392 p. (p. 59-90).

Methodological procedures for the evaluation of the efficacy of psychotropic agents in schizophrenic populations are discussed. The methodology for early trials, controlled treatment trials, large cooperative or collaborative studies, and maintenance studies is described for each of the following: chronic schizophrenia, acute schizophrenia, and outpatient schizophrenics. Pa-

tient characteristics, settings, criteria of effectiveness, research design, drug as a variable, and statistical methods are discussed. 53 references.

**096017** DeWolfe, Alan S.; Barrell, Robert P.; London, Leslie; Spaner, Fred E. Veterans Administration Hospital, Downey, Illinois Prolixin enanthate and thorazine-stelazine regimens in the treatment of schizophrenic patients. An experimental evaluation. *Psychosomatics*. 12(3):186-190, 1971.

The efficacy of Prolixin Enanthate injection for use with both male and female schizophrenic patients was compared with that of Thorazine - Stelazine combination in a controlled experimental study. The study used a double blind crossover design with placebo effects controlled, and was a conservative estimate of the differences, since the effects of any residual drugs would be expected to reduce measures of the differences between the drug regimens. There were 2 kinds of measures used. The first kind was blind clinical rating on the Inpatient Multidimensional Psychiatric Scale (IMPS) made by outside judges employed only to make these ratings. The second was blind ratings of the responses to Word Association tests scored by judges other than those doing the clinical ratings. The findings indicated that the Prolixin Enanthate was equal with the Thorazine - Stelazine combination on 9 of the 10 IMPS psychotic scales and that Prolixin Enanthate was significantly superior for treating the conceptual disorder syndrome (disturbances in stream of thought). In the Word Association Test responses, the Prolixin Enanthate was significantly better using a measure of general psychotic symptom severity based on associative disturbance. The superiority of the Prolixin Enanthate regimen was essentially equivalent in both males (80%) and females (67%). With the prophylactic use of Cogentin for periods of 2 weeks or less, adverse symptom reactions were minimal. 22 references. (journal abstract modified)

**096309** Gemignani, G.; Senini, G.; Bertuzzi, F. Ospedale Psichiatrico Provinciale di Lucca, Lucca, Italy /Simultaneous clinical use of two neuroleptics (Droperidol and Flupentixol) in psychiatric therapy./ Impiego clinico contemporaneo di due neurolettici (Droperidolo e Flupentixol) in terapia psichiatrica. *Rassegna di Studi Psichiatrici (Siena, Italy)*. 60(2):161-172, 1971.

A psychopharmacologic study involving the simultaneous use of Droperidol and Flupentixol

in nonfixed association was conducted in 36 chronic schizophrenics. Fifteen patients, who were resistant to drug treatments and presented full blown schizophrenia, were treated with Droperidol (3 to 8mg daily) and Flupentixol (3mg daily) for 3 to 11 consecutive months. The results were excellent in 7 cases and good in 8; in 13 patients the psychic balance achieved was sufficient to warrant discharge. Another group of 21 patients, in whom the defective nucleus of schizophrenia was predominant, were treated with Droperidol (2 to 5mg daily) and Flupentixol (2 to 9mg daily) for 7 to 10 consecutive weeks. A target symptom scale was used to assess treatment effectiveness, and the results of the comparison between basal values and values during treatment were highly significant. Extrapyramidal side effects were correctable; the experiment in general was adjudged encouraging. 16 references.

**097797** Deniker, P.; Ginestet, D.; Peron-Magnan, P.; Colonna, L.; Loo, H. Clinique des Maladies Mentales et de l'Encephale, 1, rue Cabanis, 75 Paris 14, France /A clinical study of oxafumazine: its place among neuroleptic drugs./ Etude clinique de l'oxafumazine; sa place parmi les neuroleptiques. *Therapie (Paris)*. 26(1):227-233, 1971.

Oxafumazine, a piperazinic and fluorated with dioxanne nuclear phenothiazine, has the characteristics of a major and polyvalent neuroleptic drug. Forty three patients were treated (acute and chronic psychoses) with oxafumazine. The percentage of therapeutic success was roughly 55%. According to the posologies and the chosen cases, oxafumazine is sedative for the anxious psychotic states and efficient on the depersonalization (posology: 150 to 350mg/day). The lessening of delirious and hallucinatory states is progressive and of good quality with analogous posologies. Lastly, oxafumazine acts as a desinhibitor compound within the athymhormic schizophrenics when ingesting a daily dose which appears lower (30 to 80mg/day). Since the necessary posology (100 to 150mg) may be very rapidly reached, the treatment by injection is efficient for manic states. The neurological side effects of the oxafumazine are those of the major neuroleptic drugs. 4 references. (Journal abstract modified)

**098292** Bucci, Luigi. Metropolitan Hospital, New York Medical College, New York, N. Y. The dyskinesias: a new therapeutic approach. *Diseases of the Nervous System*. 32(5):324-327, 1971.

Twenty chronic schizophrenic patients suffering from different forms of dyskinesia were treated either with chlorpromazine and procyclidine or with chlorpromazine and isocarboxazid. The patients treated with the latter combination showed improvement but those treated with chlorpromazine and procyclidine showed no improvement whatsoever. The results of the study demonstrate that the MAO inhibitors may be useful in the treatment of the dyskinesias, but that results vary. Regardless of the biochemical derangement, the therapeutic results depend mostly upon the intactness of the anatomical structure involved. The treatment of the dyskinesia with an MAO inhibitor should be started as soon as a dyskinetic manifestation is noticed to further degeneration of the neurones. 27 references. (Author abstract modified)

**098602** Bucci, Luigi. New York Medical College-Metropolitan Hospital, New York, New York Combined intramuscular administration of depot fluphenazine and benztropine mesylate in chronic schizophrenic patients. *Current Therapeutic Research*. 13(8):545-548, 1971.

Depot fluphenazine (DF) and benztropine mesylate (BM) were injected in the same syringe to 44 chronic schizophrenic patients in order to see whether this drug regimen would decrease the incidence of the extrapyramidal reactions. The clinical data seem to clearly demonstrate that the concomitant administration of DF and BM not only is safe and well tolerated by the patients, but it is also useful in preventing, in most instances, the occurrence of an extrapyramidal reaction which often may cause discontinuation of DF therapy. 11 references. (Author abstract modified)

**098603** Sugerman, A. Arthur. New Jersey Bureau of Research in Neurology and Psychiatry, Princeton, New Jersey A pilot study of GP-45795 in chronic schizophrenics. *Current Therapeutic Research*. 13(8):549-552, 1971.

GP-45795 was administered to 10 chronic schizophrenic males in doses increasing from 10 to 110mg. daily over a 15 week period after a 6 week placebo baseline period. Global clinical ratings by psychiatrist and senior research nurses showed some degree of improvement in 6 patients. The Brief Psychiatric Rating Scale showed significant improvement in Emotional Withdrawal. There was also evidence of improvement in Social Competence and Personal Neatness (NOSIE) in

the first 12 weeks. The most prominent side effect was hypotension. Significant increases in body weight and sleep duration were noted. GP-45795 appears to have mild antipsychotic effects. Studies at higher dose levels should be carried out before controlled trials are attempted. 5 references. (Author abstract)

**098613** Huber, Wolfgang; Serafetinides, Eustace A.; Colmore, John P.; Clark, Mervin. University of Oklahoma Medical Center, Oklahoma City, Oklahoma Pimozide in chronic schizophrenic patients. *Journal of Clinical Pharmacology and New Drugs*. 11(4):304-309, 1971.

In a 12 week double-blind placebo controlled clinical trial, patient acceptance of pimozide in doses up to 40mg and the potential usefulness of this drug as maintenance therapy in chronic schizophrenic male patients were evaluated. The subjects were changed abruptly from a phenothiazine to either placebo or pimozide in single oral doses up to 40mg, or 8 capsules per day. Side effects encountered were the usual ones, especially extrapyramidal signs of a relatively mild nature, and 1 subject complained of bad dreams and increased auditory hallucinations. The results indicated that pimozide in the dose administered was generally well accepted following thioridazine and to a limited extent appeared successful in producing some improvement and in preventing deterioration to the degree that it occurred in the placebo group. The improved 'sociability' aspect of pimozide treatment probably warrants further investigation. 6 references. (Author abstract)

**098976** Hoffer, A. 1201 CN Towers, First Avenue South, Saskatoon, Saskatchewan, Canada Vitamin B3 dependent child. *Schizophrenia*. 3(2):107-113, 1971.

Orthomolecular therapy involves use of megadoses of vitamin B3 with other nutrients and medications. Without exception every psychiatrist who has used the method has been very impressed. Addition of vitamin B3 substantially improves recovery rates and reduces relapses and readmissions. There is no doubt that a major proportion of schizophrenics recover on vitamin B3. A study of vitamin B3 treatment of schizophrenic children is reported which shows only 1 failure in 33 cases. These children are viewed as having vitamin B3 dependency, which is inherited. Some case histories are presented. The syndrome is

characterized by hyperactivity, deteriorating performance in school, perceptual changes, and inability to acquire or maintain social relationships. Any child showing 3 or more of these features should be given a trial with the orthomolecular approach. 5 references.

098978 Yaryura-Tobias, Jose A. Universidad de John F. Kennedy, Buenos Aires, Argentina Some aspects of our research studies on schizophrenia. *Schizophrenia*. 3(2):106, 1971.

The value of levodopa for treatment of schizophrenia is discussed. The drug may be an important link in the etiology of some forms of mental illness still called schizophrenia. Nicotinic acid has antistressing properties and blocks some kinds of levodopa psychiatric effects.

098982 Bogliolo, C.; Suman, A. Ospedale Neuropsichiatrico Provinciale, Florence, Italy /Decanoate of fluphenazine, a neuroleptic with retarded action, in the treatment of schizophrenia./ Il decanoato di flufenazina, neurolettico ad azione protratta, nel trattamento delle sindromi schizofreniche. *Rassegna di studi psichiatrici*. 40(3):371-392, 1971.

Thirty patients in the Neuropsychiatric Hospitals of Florence who suffered from schizophrenia in different phases of evolution were treated with decanoate of fluphenazine. The drug was administered through intramuscular injections in varying dosages (from 25mg to 100mg per dose) at intervals of approximately 4 weeks. In most of the cases antiparkinson drugs were added to prevent disagreeable side effects. Clinical effects of treatment were controlled by the Rating Scale of Overall-Gorham. Positive results were observed in 73.3% of cases. Extrapyramidal side effects, though present in a rather large percentage (63.3%), were of a relatively modest influence and easily controlled by antiparkinson drugs. Conclusions emphasize the essential antipsychotic and resocializing action of the drug, particularly in cases of continual and prolonged treatments with a 'long acting' neuroleptic; this fact could indicate a very important step in the treatment of forms of schizophrenia, particularly the chronic variety. 42 references. (Author abstract modified)

099011 Ban, Thomas A. Division of Psychopharmacology, Department of Psychiatry, McGill University, Montreal, Quebec, Canada Current status of chemotherapy of schizophrenia. *Schizophrenia*. 3(2):116-128, 1971.

The current status of chemotherapy of schizophrenia is appraised, with particular reference to neuroleptic and niacin treatment. The treatment of choice for schizophrenia today is pharmacotherapy with neuroleptics. There are at least 5 biochemical theories on the basis of which the administration of nicotinic acid may have a therapeutic effect in schizophrenic patients. Nicotinic acid is not the optimal treatment for the average schizophrenic patient and in the absence of verified clinical or biochemical indicators for therapeutic responsiveness should not be prescribed before neuroleptic treatment has been tried. Whether a group of schizophrenic patients responsive to nicotinic acid can be identified through the application of presently available methods remains to be seen. 34 references. (Author abstract modified)

099012 Williams, Moke W. 3775 Poinciana Avenue, Coconut Grove, Miami, Florida 33133 A first evaluation. *Schizophrenia*. 3(2):114-115, 1971.

Based on clinical experience, a claim of widespread undiagnosed schizophrenia is made. The value of orthomolecular treatment is strongly endorsed. Chronic schizophrenic patients do not respond as quickly or as well to orthomolecular treatment as those diagnosed early, but marked improvement is noted. Early diagnosis of a perceptual disorder is essential, and diet considerations must be made. It is concluded that mental disease has a definite biochemical component, and orthomolecular psychiatry is of real value in treating mental conditions.

099030 Angst, J.; Bente, D.; Berner, P.; Heimann, H.; Helmchen, H.; Hipplius, H. Psychiatrische Universitätsklinik Zurich, Zurich, Switzerland /Clinical effectiveness of clozapine (Investigation with the AMP system)./ Das klinische Wirkungsbild von Clozapin (Untersuchung mit dem AMP-System). *Pharmakopsychiatrie Neuro-Psychopharmakologie (Stuttgart)*. 4(4):201-211, 1971.

Clozapine is a tricyclic psychotropic drug with a strong antipsychotic effect. In comparison with other commonly prescribed neuroleptics clozapine has an exceptional position: it provides great antipsychotic efficacy without producing any extrapyramidal side effects. The results of a clinical study on 126 schizophrenic and manic patients are analyzed and discussed using the AMP system (AMP stands for working group for methodology and documentation in psychiatry). In a newly developed program for the organization and

statistical evaluation of the AMP data, the results of the clinical study were tested as to their significance. 22 references. (Author abstract modified)

099032 Angst, J.; Jaenicke, Uta; Padrutt, Ania; Scharfetter, C. Psychiatrische Universitätsklinik, Forschungsdirektion, CH-8008 Zurich, Switzerland /Results of a double-blind experiment with HF-1954 (8-chloro-11-(4-methyl-1-piperazinyl)-5H-dibenzo(b,e) (1,4)-diazepine) compared with levomepromazine./ Ergebnisse eines Doppelblindversuchs von HF 1854 (8-Chlor-11-(4-methyl-1-piperazinyl)-5H-dibenzo(b,e) (1,4)diazepin) im Vergleich zu Levomepromazin. *Pharmakopsychiatrie Neuro-Psychopharmakologie (Stuttgart)*. 4(4):192-200, 1971.

Two random sample groups of 32 psychotic patients (64 patients in all), suffering from schizophrenia and mania, were treated in a double-blind experiment. One group was given levomepromazine, the other HF-1854, chemically 8-chloro-11-(4-methyl-1-piperazinyl)-5H-dibenzo(b,e) (1,4)diazepine. Both were equally effective against excitation and insomnia; drowsiness was an occasional side effect. Levomepromazine proved the more anxiolytic. Antipsychotic effect of HF-1854 was markedly superior to that of levomepromazine, suppressing hallucinations, delusions, aggression, schizophrenic affect and thought disorders, and loss of contact both earlier and better. Both drugs produced the same negligible side effects: slight lowering of blood pressure, raising blood sedimentation rate and increasing body weight, tachycardia, somnolence, constipation and occasional dryness of mouth. In some patients HF-1854 reduced muscle tone; it did not give rise to extrapyramidal side effects. HF-1854 is a powerful sedative and antipsychotic agent which can claim a special place among the neuroleptics since it generates neither cataleptic symptoms in animals, nor extrapyramidal (Parkinsonoid) symptoms in man. 5 references. (Author abstract modified)

099735 Simpson, George M. Department of Mental Hygiene, Rockland State Hospital, Orangeburg, New York Long-acting phenothiazines in schizophrenia. *British Medical Journal (London)*. 3(5768):248, 1971.

Comment is made on a recently issued paper on the usefulness of long acting phenothiazines in schizophrenia. Although the authors were in error

when they reported that no double-blind controlled investigations of such compounds in schizophrenics have been conducted, the conclusions concerning their effectiveness appear warranted in several studies using fluphenazine decanoate. These compounds represent an improvement over oral preparations in that they bypass the stomach and liver, therefore avoiding absorption and possible early metabolic breakdown. Their effectiveness in alleviating depression accompanying schizophrenia has also been noted. 7 references.

099740 Bobon, D.P. author address not given /Pharmacotherapy in schizophrenia./ La pharmacotherapie de la schizophrénie. *Feuilles Psychiatriques de Liege (Liege, Belgium)*. 4(1):69-73, 1971.

A number of views concerning the use of psychotherapeutic techniques in the treatment of schizophrenia are summarized. Problems of severe side effects from use of amphetamines are reviewed, as well as the efficacy of the neuroleptic tranquilizers. Possible depression following administration of the latter drugs is also treated and a number of conflicting opinions presented. Opposing views on the combination of psychotherapy and drug therapy are reviewed.

099887 Bressler, Bernard; Friedel, Robert O. Duke University Medical Center, Durham, North Carolina A comparison between chlorpromazine and thiothixene in a Veterans Administration hospital population. *Psychosomatics*. 12(4):275-277, 1971.

Results of a study to compare the overall effect of 4 weeks of treatment with either chlorpromazine (Thorazine) or thiothixene (Navane) on patients of a variety of schizophrenic subtypes are reported. In addition to the overall comparison, individual symptoms on a Psychiatric Rating Scale were analyzed to determine whether or not there was a differential effect produced by the investigational drugs. As aspects in this situation, there was an overlap in the symptoms which responded to the 2 drugs. Regarding those changes in symptoms of 1.00 or more in both treatment groups, greatest improvement was noted in Perplexity/Confusion Unrealistic Thinking, Excessive Suspiciousness, and Social Withdrawal. The thiothixene treated group, however, showed the same order of improvement in 3 additional symptoms: Severe Anxiety, Blunted

Affect and General Motor Inhibition. Some clinical and social implications of the findings are briefly noted.

**100540** Elizur, Avner; Gershon, Samuel. New York University Medical Center, Department of Psychiatry, 550 First Avenue, New York, N.Y.10016 Evaluation of the antipsychotic activity of an indole analogue, AL-1612. *Current Therapeutic Research*. 13(9):584-590, 1971.

Ten acute schizophrenic inpatients (8 women, 2 men) were treated, single-blind, for 3 weeks with AL 1612 in daily doses increasing up to 700mg. The therapeutic efficacy, the therapeutic dose range and the side effects of AL 1612 were assessed. The maximum therapeutic level appeared to be 400mg. Six patients showed fair to good clinical improvement whereas 4 showed no improvement and required further hospitalization. The most meaningful amelioration was in conceptual disorganization and motor disturbance, less so in secondary psychotic symptoms, tension and anxiety, and none in depressive mood, paranoid projection and hostility. There was a high incidence of extrapyramidal side effects with a narrow therapeutic range. The overall clinical impression is that AL 1612 partially fulfills the animal laboratory prediction of antipsychotic activity and does not seem to show any clinical advantages over a standard reference antipsychotic agent. 11 references. (Author abstract)

**100807** Kellam, A.M.P.; Jones, K.S. Dept. of Psychological Medicine, Welsh National School of Medicine, Cardiff CF 1 7XB, Wales A double blind controlled trial of thiothixene and perphenazine in chronic schizophrenics shown to require maintenance therapy. *Acta Psychiatrica Scandinavica (Kobenhavn)*. 47(2):174-185, 1971.

A comparison study of thiothixene and perphenazine as maintenance treatment for chronic schizophrenics was made. Maintenance phenothiazine therapy in 30 patients was replaced by a placebo unknown to themselves or the nursing staff. Of these 19 relapsed and were given further therapy with perphenazine and thiothixene each for 10 weeks in a random and blind manner. The results showed that both drugs were successful in controlling their symptoms, possibly with thiothixene having some advantage. Patients over 60, or who had been in hospital over 15 years, were less likely to need further maintenance therapy. Patients with positive symptoms were

more likely than those showing mainly social defects to require further maintenance therapy. 20 references. (Author abstract modified)

**101158** Cott, Allan. author address not given Orthomolecular treatment: a biochemical approach to treatment of schizophrenia. *Welfare Reporter*. 22(3):33-44, 1971.

The treatment of schizophrenia as a biochemical disorder is outlined. Orthomolecular therapy may be defined as the treatment of mental illness by the provision of the optimum molecular composition of the brain, especially the optimum concentration of substances normally present in the human body. As an example of orthomolecular therapy, the treatment of phenylketonuric children by the use of a diet containing a smaller than normal amount of the amino acid phenylalanine is cited. Research has established that schizophrenia is basically a physical illness caused primarily by disturbances in the biochemical balance of the body and determined by genetic predisposition. This predisposition can be inherited. In schizophrenia, adrenochrome is converted to adrenolutin, which is a toxic substance. In nonschizophrenics, adrenochrome is converted into nontoxic leucoadrenochrome. This change is facilitated when vitamin C and the amino acids, glutathione and cysteine are present in sufficient amounts. Ceruloplasmin, a protein present in normal blood can combine with and remove adrenolutin. Treatment with nicotinic acid, vitamin C and vitamin E is safe, easily administered and effective. It is found that early cases of schizophrenia respond better than chronic cases and that longer treatment prevents relapse. A high protein - low carbohydrate diet in the treatment regimen has proved to be valuable. The importance of diet in mental retardation and schizophrenia is stressed. In considering childhood schizophrenia and autism, it is hypothesized that autism is, like schizophrenia, the result of a metabolic disorder and that the overlapping symptoms of the 2 illnesses are manifestations of the perceptual distortions which result from the presence of toxic substances in the bloodstream and of the improper molecular concentration of certain vital vitamin and enzyme substances in the cells of the brain. Treatment with vitamins B3, B6, C and others results in significant improvement in 3 to 6 months. It is noted that schizophrenia is not a single disorder but a group of biochemical disorders and other research is

concerned with histamine levels and trace metal concentrations in schizophrenics. 9 references.

101527 Left, J.P.; Wing, J.K. Medical Research Council Social Psychiatry Unit, Institute of Psychiatry, London S.E.5, England Trial of maintenance therapy in schizophrenia. *British Medical Journal (London)*. 3(5775):599-604, 1971.

A double-blind, placebo controlled trial was carried out to determine the value of maintenance therapy with phenothiazines in a population of outpatients who had recently recovered from an acute episode of schizophrenia. The drug was shown to be significantly more effective than the placebo in preventing relapse. The relationship of the trial patients to the population from which they were selected was defined in terms of clinical, historical, and social data. Maintenance therapy seems of little value in patients with a good prognosis and in the severely ill, but it is of value in the indeterminate group between these 2 extremes. 22 references. (Journal abstract)

102256 no author. author address not given Schizophrenia -- keeping the shakes down. *World Medicine (London)*. 6(12):69, 1971.

Studies with pimozide show that the neuroleptic drug has as good antischizophrenic activity as other preparations, but with reduced side effects. In 1 trial, results showed that 8 patients improved and 7 deteriorated on pimozide, compared with 7 improved and 8 worse on fluphenazine. Another trial also used fluphenazine, and assessment showed both drugs equally effective.

102653 Il'on, G.Ia. Moskovskaya psikhiatricheskaya bol'nitsa No.15, Moscow, USSR /Experience with complex therapy for patients with the period form of schizophrenia./ Opyt kompleksnoi terapii bol'nykh s periodicheskoi formoi shizofrenii. In: *Semenov, S., Voprosy kliniki i terapii psikhicheskikh zabolevaniy*. Moscow, Ministerstvo Zdravookhraneniya SSSR, 1971.276 p.(p.92-95).

The need for combined therapy for patients with periodic schizophrenia is underlined by the variety of syndromes comprising the clinical picture of the disease. In a clinical study of subjects with maniacal affect during attacks, treatment was initiated with aminazine or tizercine. After completion of the effect of each successive dosage, the former psychopathological picture was manifested. With the additional administra-

tion of haloperidol, triperidol, and similar substances, the delusional components of the psychosis abated, tension decreased, and the nature of the affect changed. In a second group of subjects, comprised of patients with depressive affect during attacks, therapy was begun with tizercine administration, after which other drugs were given in combination. Repeated administration of the same combinations of drugs was found to decrease the effect of treatment.

102657 Ruzhanskii, M.I. Moskovskaya psikhiatricheskaya klinicheskaya bol'nitsa No.15, Moscow, USSR /On the analysis of side (neuroleptic) manifestations in the treatment of schizophrenic patients with majeptil./ K analizu pobochnykh (neurolepticheskikh) yavlenii pri lechenii mazheptilom bol'nykh shizofreniei. In: *Semenov, S., Voprosy kliniki i terapii psikhicheskikh zabolevaniy*. Moscow, Ministerstvo Zdravookhraneniya SSSR, 1971. 276 p. (p.88-91).

The functional character of the side effects arising during majeptil treatment and their easy reversibility have been found to be very convincing. In a study of excitomotor crises in 34 schizophrenic patients, crises developed at the onset (7) or conclusion (4) of treatment, were accompanied by trismus (12), developed together with spasms limited to the mouth region (5), or were manifested in the form of convulsive contractions of muscle groups or asynchronous muscular jerking of the limbs (6). Manifestations of parkinsonism in 22 patients included slowness of movement and speech at the onset and conclusion of treatment. When the dosage was increased for 12 of these patients, side effects became stronger. Akathisia, tachycardia, and 2 types of tremors were among the effects noted during treatment. The greatest therapeutic effect was achieved in all patients under conditions of minimal side manifestations. In instances of intense and frequent manifestations, the therapeutic effect was absent or insignificant. An attempt was made to eliminate the manifestations without lowering the therapeutic action of majeptil. When this course failed, antiparkinsonian and neuroleptic drugs were indicated.

102669 Nemirovskii, G.M.; Pykhtareva, N.D. Moskovskaya gorodskaya klinicheskaya psikhiatricheskaya bol'nitsa No.15, Moscow, USSR /Experience with treatment of indolent schizophrenia with the cenesthopathic hypochon-

driacal syndrome./ Opyt lechenia vialo tekushchel shizofrenii s senestopatcheski-ipokhondricheskim sindromom. In: *Semenov, S., Voprosy kliniki i terapii psikhicheskikh zabolevanii*. Moscow, Ministerstvo Zdravookhraneniia SSSR, 1971. 276 p.(p.70-72).

Fifty one patients with an indolent form of schizophrenia and the cenesthopathic syndrome were given combined neuroleptic therapy on the first day of treatment. On the fourth or fifth day, anxiety decreased, sleep improved, fears were absent, and the general mood of the patients improved. On the sixth or seventh day, frenolon was combined with the preceding neuroleptic treatment, and the patients became more active and participated in all of the rehabilitative measures. Patients with longer duration of the schizophrenic process, with stable hypochondriacal delusion, unusual cenesthopathic sensations, more serious thought disturbances, and other related symptoms received insulin together with neuroleptic therapy. Manifestations of depression disappeared and the work capacity of the patients was restored.

102833 Valley, J.F.; Lovegrove, T.D.; Hobbs, G.E. Department of Psychiatry, University of Western Ontario, London, Ontario Nicotinic acid and nicotinamide in the treatment of chronic schizophrenia. *Canadian Psychiatric Association Journal (Ottawa)*. 16(5):433-435, 1971.

Chronic schizophrenic patients receiving nicotinic acid or nicotinamide as adjuvant therapy to the customary therapeutic regime (unspecified tranquilizing drugs) demonstrated no increased therapeutic gains over the customary therapeutic regime plus placebo. 6 references. (Author abstract modified)

104086 Polak, Paul; Laycob, Lawrence. Southwest Denver Community Mental Health Services, Inc., 3052 West Mississippi Ave., Denver, Colo. 80219 Rapid tranquilization. *American Journal of Psychiatry*. 128(5):640-643, 1971.

A treatment of acute schizophrenia that combines drug therapy and psychotherapy is described. Patients are rapidly tranquilized by titrating dosage levels of phenothiazines administered every 1 or 2 hours against the patient's specific target symptoms to produce a tranquilized end point with 6 hours. Dosage levels are adjusted daily and chemotherapy is integrated with intensive social systems intervention centered on the patient's real life setting. 4 references. (Author abstract modified)

105008 Saletu, B.; Saletu, M.; Itil, T.; Jones, J. Dept. of Psychiatry, Univ. of Missouri, 5400 Arsenal St., St. Louis, Mo. 63139 Somatosensory evoked potential changes during thiothixene treatment in schizophrenic patients. *Psychopharmacologia (Berlin)*. 20(3):242-252, 1971.

The effect of thiothixene, a thioxanthene derivative, on the somatosensory evoked response was studied in a group of 9 chronic schizophrenic patients. It was found that the drug induces significant changes in the latency and amplitude of the SEP, predominantly in the later peaks. The latency of several peaks increased markedly in the first 3 weeks of treatment (during the low dosage period), whereas a further latency increase in the high dosage treatment period was only slight. After the discontinuation of drug administration a decrease in latency was observed. The amplitude revealed itself to be a sensitive indicator of the drug effect on the central nervous system, as the decrease in amplitude which occurred during the low dosage drug period ceased during high dosage treatment, indicating an adaptation effect on the patient population. In the posttreatment placebo period the amplitude increased, suggesting a rebound phenomenon. Schizophrenics who exhibited a marked latency increase in evoked response with thiothixene treatment, also experienced an improvement in psychopathology, whereas patients showing only a small latency increase, or even a decrease, revealed themselves as psychopathologically therapy resistant. It was found that thiothixene also produced significant EEG changes, determined by analog power spectrum and period analysis. During the drug treatment periods an increase in theta and alpha activity and a decrease in beta activity was observed. As in the SEP, 8 weeks after discontinuation of the drug a rebound phenomenon was seen. 23 references. (Author abstract)

105600 Franzen, G. Dept. of Psychiatry II, University of Lund, St. Lars Hospital, S-220 06 Lund, Sweden Serum cortisol in chronic schizophrenia. *Acta Psychiatrica Scandinavica (Kobenhavn)*. 47(2):150-162, 1971.

The serum cortisol response to intravenously administered regular insulin and adrenocorticotrophic hormone before and after abrupt withdrawal of drugs in 10 chronic, schizophrenic patients of postmenopausal age was studied. Patients were rated weekly on the Rockland and Pollin scale, which quantifies the mental status of

psychotic patients. The purpose was to find a possible correlation between changes in mental status and physical variables, especially concerning serum cortisol, and to find the possible effect of drug treatment. After withdrawal of medication, the patients deteriorated only in ratings of content of thought and thought processes. Correlations between changes in cognition and serum cortisol values were established, as well as a correlation between rated changes of thought disorders and serum cortisol. These correlations were largely independent of the drug therapy. Furthermore, ratings of increased inactivity were associated with a rise in serum cortisol, indicating an undiminished psychotic process despite small external manifestations. Earlier drug treatment showed their effect only to a relatively moderate extent in these correlations. With regard to the physical effects of psychotropic drugs, it is proposed that amitriptyline may possibly have a certain hyperglycemic effect. 14 references. (Author abstract modified)

**105673** Deverteuil, R.; Lehmann, H.E.; Ban, T.A.; Saxena, B.M. Centre Hospitalier Universitaire, Université de Sherbrooke, Sherbrooke, Quebec, Canada Fluphenazine enanthate in the treatment of chronic psychotic patients: a controlled clinical study. *Internat.J. of Clinical Pharmacology, Therapy and Toxicology (Munchen)*. 4(2):219-222, 1971.

Fluphenazine enanthate was first tested clinically in a 12 week double-blind study on a group of 20 hospitalized schizophrenics. This preliminary trial appeared to produce superior results in controlling some symptoms. A further study with this drug was then undertaken with 20 patients, in comparison to a group of 10 patients with standard treatment. The patients in the enanthate group received the preparation in the dosage range of 25mg to 100mg, S.C. at 2 week intervals, starting with the 25mg dose, and increasing this, if needed, at 3 month intervals to a possible maximum. The standard treatment group continued on whatever phenothiazines they were already receiving. The study was conducted for a period of 48 weeks. There was a high attrition rate in the enanthate group, so that 15 (11 of which were in this treatment group) of the 30 patients could not complete the 48 week study. It is suggested, from the results of the psychological correlates, that the trend for improvement in the areas of anxiety, tension and uncooperativeness, is encouraging

evidence for the use of the drug on patients who are difficult to handle and refuse medication. 11 references.

**105674** Gauthier, R.; Massac, Ch.; Tetreault, L. Hopital St-Jean-de-Dieu, Montreal-Gamelin, Canada /A study of the levomepromazine-thiopropazine antagonism on the extrapyramidal system./ Etude de l'antagonisme levomepromazine-thiopropazine sur le système extra-pyramidal. *Internat.J. of Clinical Pharmacology, Therapy and Toxicology (Munchen)*. 4(2):223-227, 1971.

A study was conducted to test the hypothesis that levomepromazine, a tranquilizer, antagonizes the extrapyramidal manifestations induced by thiopropazine, an energizer. The 3 avenues of investigation comprised: the verification of the antagonistic effect on the extrapyramidal system; the detection of the symptoms reflecting the antagonism; and the evaluation of the importance of this action. Patient population consisted of 32 females with chronic schizophrenia. They had been hospitalized without interruption for at least 5 years and treated with neuroleptics in about the same dosage as was contemplated by the study. Of these patients, 2 groups were formed, one under the supervision of the research service, and the other allocated to the traditional hospital wards. The study was conducted according to the crossover design, and criteria for the measurement of symptoms were established. From the results obtained, levomepromazine protects against certain dystonic symptoms induced by the neuroleptic energizers. This protective effect does not seem to prevent parkinsonian symptoms.

**105826** Molcan, J.; Floreanova, L.; Kukucova, H.; Motylova, E.; Polak, L. Zahradnicka 25, Bratislava, Czechoslovakia Therapeutic effect of fluphenazine in various doses and forms. *Activitas Nervosa Superior (Praha)*. 13(3):182-183, 1971.

Results from administration of fluphenazine to 3 groups of chronic schizophrenics indicate that the usual dosage of the drug is too small. The first group received tablets of 100mg daily, the second group, tablets of 100 to 300mg daily, and the third group, depot injections. Side effects were autonomic, somatic, and primarily extrapyramidal. On the average, improvement was greatest in patients receiving high dosages, whereas the results from depot treatment were the next most effective. Thus, depot treatment has advantages in the treatment of these patients.

**105829** Rodova, A.; Nahunek, K.; Svestka, J. Psychiatric Clinic, Jihlavská 102, Brno-Bohunice, Czechoslovakia Comparison of the therapeutic results of clothiapin and perphenazine in schizophrenia. *Activitas Nervosa Superior (Praha)*. 13(3):171-173, 1971.

Clothiapin was compared with perphenazine in systematic short-term cross over studies of schizophrenic patients ranging in age from 16 to 66 years. The dosage of both neuroleptics was determined individually, and therapy was supplemented with antiparkinsonic drugs upon manifestation of extrapyramidal symptoms and with hypnotics for insomnia at night. Both neuroleptics were found to be more satisfactory in paranoid hallucinatory and schizoaffective psychoses, while clothiapin had a greater sedative and hypnotic effect, produced a more rapid onset of therapeutic action, and affected manic mood and appearance. Both compounds were needed to achieve optimal results in certain patients, however. 6 references.

**105885** Shopsin, Baron; Kim, Suk Sik; Gershon, Samuel. Neuropsychopharmacology Research Unit, Department of Psychiatry, New York University Medical Center, New York, New York 10016 A controlled study of lithium vs. chlorpromazine in acute schizophrenics. *British Journal of Psychiatry (London)*. 119(551):435-440, 1971.

Twenty one newly hospitalized schizophrenic patients were given chlorpromazine (10 patients) or lithium carbonate (11 patients) in a doubleblind controlled fashion. The results unequivocally indicate superior treatment efficacy under chlorpromazine in either reducing symptom severity or bringing about illness remission; lithium often contributed to further decompensation in schizophrenic symptomatology. It is suggested that lithium may be detrimental to schizophrenics in that these patients run a greater liability of developing neurotoxicity at modest lithium doses and blood levels. 25 references. (Author abstract)

**105923** Molcan, J.; Floreanova, L.; Kukucova, H.; Motylova, E. Zahradnicka 25, Bratislava, Czechoslovakia Our experience with clothiapin in schizophrenia. *Activitas Nervosa Superior (Praha)*. 13(3):183, 1971.

Clothiapin was administered to 22 schizophrenic patients in an average daily dose of 120mg for a period of 40 days and the therapeutic effect was assessed from the influence of the preparation on single forms of schizophrenia and on single

psychopathologic symptoms, the quantity of the daily dose, and the time division of the therapeutic action. Psychopathologic symptomatology showed improvement in more than 2 thirds of the patients. Paranoid schizophrenia was affected more favorably than the unproductive simple form. Clothiapin exerted the most marked effect on psychomotor agitation, perplexity, illusions and hallucinations, confusion, thought disturbances, and delusional ideas and experience. One case of hebephrenic schizophrenia showed complete improvement. The 2 phases of effect consisted of a period of unspecific inhibition with sleepiness and fatigue and a second stage of specific antipsychotic action with more pronounced extrapyramidal symptomatology.

**105924** Zapletal, M.; Rikovsky, S.; Mrna, B. Psychiatric Clinic, I.P. Pavlova 12, Olomouc, Czechoslovakia Clinical experience with clothiapin (Entumin) in schizophrenic psychoses. *Activitas Nervosa Superior (Praha)*. 13(3):181-182, 1971.

Clinical experience with administration of clothiapin to 35 schizophrenic psychotics confirms that the effectiveness of this drug is similar to that of chlorpromazine and thioridazine. Fifteen treated patients improved substantially or recovered, 9 improved, 6 improved only slightly, 2 did not improve, and 3 became worse. Perception disorders, motor activity, submissiveness, attentiveness, and affectivity improved after 8 days of treatment. After 40 days, the effect of clothiapin was more marked in motor activity, submissiveness and sociability, hostility, speech, feeling, perception, attentiveness, and affectivity. Delusions, criticism, and appearance were not affected. No typical electroencephalographic changes were noted. The major side effects were pseudoparkinsonian symptomatology in 23%, fatigue in 33%, acathisia in 20%, and sweating and dryness of the mouth in 13%. 8 references.

**105926** Remr, J. Psychiatric Hospital, Kosmonosy, Czechoslovakia The effects of chlorpromazine on fine psychomotor performance with a simultaneous secondary task in schizophrenics. *Activitas Nervosa Superior (Praha)*. 13(3):179, 1971.

On the assumption that the secondary task in schizophrenics would worsen performance in fine psychomotor areas, that chlorpromazine would potentiate this negative effect, and that the secondary task would, in turn, decrease performance following chlorpromazine administration, the ef-

fect of chlorpromazine on the accuracy and speed of fine manipulatory movements of schizophrenic patients who were given a mental task to perform simultaneously was studied. With placebo under basal conditions and with a secondary task, performance was impaired in the 4 tests administered to the schizophrenics. With chlorpromazine under basal conditions and with a secondary task, similar impairment of performance was noted. The difference in total performance after placebo and chlorpromazine in basal conditions was statistically indistinguishable, although some significant changes due to the effect of chlorpromazine were found in individual tests. The obtained results confirm the negative effect derived from introducing a secondary task and chlorpromazine on the studied performance.

105927 Vinar, O.; Taussigova, D.; Bastecky, J. Institute of Psychiatry, Prague 8-Bohnice, Czechoslovakia Thiothixene in schizophrenic psychoses. *Activitas Nervosa Superior (Praha)*. 13(3):174-177, 1971.

Thiopropazine is one of the most potent neuroleptics and is indicated in schizophrenic patients who have not been helped by previous therapy, despite its massive extrapyramidal side effects. Thiothixene has the same chemical structure but is not a phenothiazine, and it is hoped that it will prove as therapeutically potent as thiopropazine but with less dramatic side effects. Thiothixene was administered to 54 schizophrenic patients in double blind trials in a mean dosage of 38.2mg daily. Depression increased during the first 2 weeks of treatment. Delusions began to disappear gradually only in the second week, and improvement continued throughout the remainder of treatment. Side effects were not troublesome and were definitely milder than in thiopropazine therapy. 15 references.

105930 Molcan, J.; Kukucova, H.; Konikova, M. Psychiatric Clinic, Zahradnicka 25, Bratislava, Czechoslovakia Clinical experience with flupenthixol in the treatment of chronic schizophrenia. *Activitas Nervosa Superior (Praha)*. 13(3):180-181, 1971.

Twenty chronic schizophrenic patients were treated with flupenthixol in daily dosages of 3mg for a period of 6 weeks. Only half were treated regularly with work therapy. Evaluation of the psychopathologic state showed no changes, while a different rating scale indicated that the treated

patients developed an increased ability to participate in occupational therapy. Side effects were mild. Even in cases where the drug does not have a direct effect on psychopathologic disturbances, it seems to potentiate occupational therapy and, thus, to improve the chance for rehabilitation in chronic mental diseases.

106050 Franzen, Goran. University of Lund, Psychiatric Clinic II, Lund, Sweden Serum cortisol in chronic schizophrenia: changes in the diurnal rhythm and psychiatric mental status on withdrawal of drugs. *Psychiatra Clinica (Basel)*. 4(4):237-246, 1971.

A study involving the abrupt withdrawal of psychotropic drugs was made in 10 chronic schizophrenic women of postmenopausal age, and at the same time mental status was rated repeatedly using the Rockland and Pollin scale. In each patient the diurnal rhythm of serum cortisol --involving the determinations of serum cortisol levels in the morning, in the afternoon, and in the evening -- was determined before, and 5 weeks after, the discontinuation of medication. On the whole, the patients did not retrogress as reflected by their ratings (based on the total points in the rating scale), but a distinct deterioration in thought content and the thought processes (rating scale category III) was established. The serum cortisol levels did not vary, but there was a flattening of the diurnal rhythm. There was a correlation between rated change in mental status and the change of the diurnal rhythm of serum cortisol, especially in the morning values. It is of special interest to note a correlation between rated deterioration in cognition (rating scale, category III) and changes in the morning values of serum cortisol and, particularly, between rated changes in thought disorder and changes in the morning values of serum cortisol. 18 references. (Author abstract)

106066 Veterans Administration; Prien, Robert F.; Caffey, Eugene M., Jr.; Klett, C. James. Central Neuropsychiatric Research Laboratory, Perry Point, Maryland A comparison of lithium carbonate and chlorpromazine in the treatment of excited schizo-affectives. (Unpublished paper). Veterans Administration, Perry Point, Maryland, 1971. 31 p.

In an 18 hospital collaborative study, 83 newly admitted patients with a diagnosis of schizo-affective psychosis, excited state, were randomly as-

signed to lithium carbonate or chlorpromazine for a 3 week period. Patients were classified as highly active or mildly active on the basis of degree of hyperactivity shown at admission. The results showed that lithium was less effective than chlorpromazine in treating highly active patients. This was due primarily to lithium's relatively poor control of hostile, excited behavior. There was no major difference between lithium and chlorpromazine among mildly active patients; both treatments showed a significant reduction in affective and schizophrenic behavior. The possibility that lithium may have neuroleptic properties is considered in a discussion of the therapeutic and diagnostic implications of these results. 39 references. (Author abstract)

106813 Bennington, H. Russell. author address not given Long-acting phenothiazine in psychiatric practice. *Nursing Mirror and Midwives Journal (London)*. 133(22):28-29, 1971.

The use of long acting phenothiazines was evaluated at Downshire Hospital in County Down, Northern Ireland. It was found that these drugs appear to be beneficial and they have enabled a community program of support and supervision to be established. The use of Moditen Enanthate and Modecate in the hospital and community psychiatric nursing service improved communications, provided feedback to the psychiatrist and enabled more patients to remain at home with a reduced risk of their prescribed medication being omitted. Although psychiatric patients are not highly motivated to take oral medication they are much more reliable in taking prescribed anti-Parkinsonian medication which relieves the side effects of the phenothiazines. 9 references. (Author abstract modified)

106918 Rappaport, M.; Silverman, J.; Hopkins, H.K.; Hall, K. Agnews State Hospital, San Jose, California 95114 Phenothiazine effects on auditory signal defection in paranoid and nonparanoid schizophrenics. *Science*. 174(4010):723-725, 1971.

The differential effects of phenothiazine medication on auditory signal defection performance were compared in 2 types of schizophrenic subjects and in normal subjects. With increasing phenothiazine dosage, a decrease in efficiency of signal detection performance occurred among nonparanoid schizophrenics, and an increase in efficiency occurred among paranoid schizophrenics. These and related findings were

interpreted in terms of differences in neuropsychological response and information processing characteristics in the 2 types of schizophrenics. The primary deficit in information processing in nonparanoid cases may be related primarily to their hypersensitivity to sensory stimuli, whereas in paranoids it may be related primarily to their impaired focusing of attention. Phenothiazines appear to decrease sensitivity to stimuli in nonparanoids, but to increase the ability to focus attention in paranoids. The possibility of treatment regimens which take into account the differential effects of phenothiazine medication was suggested. 24 references. (Author abstract)

107244 Itil, T.; Heinemann, L.G.; Keskiner, A.; Gannon, P.; Hsu, W.; Cora, R. Dept. of Psychiatry, Univ. of Missouri, School of Medicine, Missouri Institute of Psychiatry, 5400 Arsenal St., St. Louis, Mo. Digital computer analyzed resting and sleep EEG investigations and clinical changes during molindone treatment. *Journal of Psychiatric Research (Oxford, England)*. 9(1):45-59, 1971.

Computer analyzed EEG and all night sleep investigations were carried out in acute and chronic schizophrenic patients during treatment with molindone, an indole derivative. Molindone, even in doses of 30-40mg mg daily, produced marked EEG changes (increase of alpha waves with synchronization) in acute schizophrenic patients, accompanied by marked to moderate improvement in psychotic symptoms. The EEG changes in chronic schizophrenics given molindone were fewer in quantity and slightly different in quality. Analog frequency analyzer data showed an increase of power in slow frequencies and a decrease in alpha and relatively slow frequencies. Digital computer period analysis also revealed an increase of very fast beta waves. As with the EEG alterations, the improvement of the psychopathology was also less marked in chronic patients than in acute schizophrenics. The all night sleep investigations demonstrated that molindone in low dosages decreased significantly the amount of time spent in deep sleep stages but the awakening periods also decreased. Based on these EEG and sleep investigations, it can be postulated that molindone affects primarily the ascending reticular activating system. 32 references. (Author abstract modified)

107286 Yaryura-Tobias, Jose A.; Diamond, Bruce. Universidad Argentina John F. Kennedy, Buenos

Alres, Argentina Levodopa-nicotinic acid interaction in psychiatric patients. *Schizophrenia*. 3(3-4):177-180, 1971.

Nine male schizophrenic patients were treated with 500mg nicotinic acid tablets 3 times daily in doses up to 2000mg each. Levodopa was administered in capsules with gradual increases until 3gm daily was established within a 2 week period. One patient was discontinued. Seven patients sustained a weight loss of 5-10 pounds. Blood pressure decreased in 7 patients when one or the other drug was given but returned to normal when both drugs were given. Severe paranoid symptoms at low and high doses of levodopa discontinued when 6gm of nicotinic acid was added. All patients experienced changes on the Bender Gestalt test. Interactions of the drugs are discussed. 10 references.

107755 Polvan, N.; Akpınar, S.; Ahmed, M.B.; Itil, T.M. Department of Neuropsychiatry, Cerrahpasa Medical Faculty, University of Istanbul, Istanbul, Turkey Different effects of trifluoperazine when administered daytime or night. *British Journal of Psychiatry (London)*. 119(553):601-602, 1971

The different effects of a neuroleptic drug, trifluoperazine, were studied when the drug was administered in the daytime and the night. It was found that when the drug was given during the evening there were fewer sleeping disturbances and extrapyramidal symptoms. Although the exact biochemical mechanism is not easy to explain, it is possible that night medication produced a suitable biogenic amine balance, resulting in deeper sleep stages. 6 references.

108701 Itil, Turan M.; Hsu, William; Saletu, Bernd; Klingenberg, Helen. Missouri Institute of Psychiatry, University of Missouri School of Medicine, 5400 Arsenal Street, St.Louis, Mo. Effects of fluphenazine hydrochloride on digital computer sleep prints of schizophrenic patients. *Diseases of the Nervous System*. 32(11):751-758, 1971.

The effect of fluphenazine hydrochloride on the all night sleep process of 11 chronic schizophrenic patients was studied using digital computer period analysis and automatic sleep stage classification (sleep print method) of the EEG, as well as visual evaluation of the rapid eye movement (REM) activity. The findings suggest that fluphenazine hydrochloride acts as a major neuroleptic drug and has both a central inhibitory and stimulatory effect. During high dosage treatment, moderately

deep stages (stage 2) increased, while very deep sleep (stage 4) and awakening stages decreased. In the low dosage drug period, a slight increase of awakening states and a decrease of sleep stage 2 was observed. The length of REM (paradoxical sleep) periods and the number of REM cycles increased significantly during fluphenazine treatment. While 4 patients lacked REM periods during placebo recordings, only 1 patient did so during low dosage treatment. During high dosage treatment, all patients showed REM stages. When the subjects were divided into therapy resistant and therapy responsive groups, it was found that responsive patients exhibited augmentation of awakening states and superimposed fast activity, suggesting that the improvement may be related to the stimulatory effect of fluphenazine hydrochloride on the chronic retarded patients. 29 references. (Author abstract)

108835 Ban, Thomas A. Division of Psychopharmacology, McGill University, Montreal, Quebec, Canada Drug treatment in schizophrenia. *Canadian Psychiatric Association Journal (Ottawa)*. 16(6):473-485, 1971.

Since the first successful use of chlorpromazine in the treatment of schizophrenia, abundant evidence has been accumulated in support of the contention that neuroleptics are effective in control of schizophrenia. However, it has not yet been established which of the psychopathological symptoms are changed in direct response to introduction of the neuroleptics. Moreover, an explanation has not yet been found for the effectiveness of one neuroleptic drug as opposed to another in a given patient. Various hypotheses are considered which seek to explain schizophrenia psychopathology in terms of metabolism disorders. 40 references.

108837 Hoffer, A. Canadian Schizophrenia Foundation, 1201 CN Towers, Saskatoon, Saskatchewan, Canada Megavitamin B-3 therapy for schizophrenia. *Canadian Psychiatric Association Journal (Ottawa)*. 16(6):499-504, 1971.

In order to counter recent criticisms of the megavitamin program technique as ineffective in treatment of schizophrenia, the entire program is reviewed. Conflicting claims are presented, specific procedures are described, and corroborative studies are discussed. Errors in research design which precluded corroborative findings in certain studies are pointed out. It is affirmed that

incorporation of vitamin megadoses into a treatment program improves results, and that these results are most successful in cases of acute schizophrenia. Moreover, megavitamin therapy improved long-term prognosis and significantly reduced the readmission rate and length of admissions in subsequent relapses. While certain side effects have been reported, the use of vitamin B-3 (nicotinic acid) is relatively nontoxic when compared with tranquilizers and antidepressants. 50 references.

108838 Marjerrison, G.; Bowman, R.; Keogh, R.P. Psychiatry Dept., Univ. of Saskatchewan, Saskatoon, Saskatchewan, Canada A comparison of chlorprothixene and haloperidol in acute schizophrenia. *Canadian Psychiatric Association Journal (Ottawa)*. 16(6):533-536, 1971.

A comparative study was made of the effects of haloperidol and chlorprothixene in terms of clinical and EEG changes in 34 newly admitted acute schizophrenic patients. Following a one week randomized double-blind experiment, the effect on Inpatient Multidimensional Psychiatric Scale syndromes of each of the drugs was assessed. Statistically significant improvement took place in both groups, with the haloperidol subjects evidencing a slight, but not significant, superiority over the chlorprothixene subjects. Even though the 2 drugs differ in chemical structure, clearly different effects were not evidenced on those EEG measures relating to certain features of schizophrenic illness. 9 references.

108959 Weinstein, Morton R.; Fischer, Ames. 401 Parnassus Avenue, San Francisco, Calif. 94122 Combined treatment with ECT and antipsychotic drugs in schizophrenia. *Diseases of the Nervous System*. 32(12):801-808, 1971.

The value of electroconvulsion therapy (ECT) in treating schizophrenia is discussed. The usefulness of ECT lies in its dual synergism with antipsychotic drugs: first, it is capable of lifting cases off the plateau of pathology, allowing reintegration at a higher level of function; second, the indefinite continuation of the drugs increases the chance that the patient will consolidate his gains and avoid relapse. It is also noteworthy that the lower maintenance drug levels possible after ECT reduce both costs and side effects and make long-term phenothiazine maintenance more acceptable to patients and their families; this increases the chances of their adhering to drug maintenance

programs. Case histories are presented and arguments against ECT are answered. 28 references.

109398 Ban, Thomas A. Dept. of Psychiatry, McGill University, Montreal, Quebec, Canada Canadian niacin study -- II. *Schizophrenia Bulletin*. No.4:6-7, 1971.

Four clinical studies on nicotinic acid therapy indicate that niacin is not the optimal treatment for the average schizophrenia patient. This conclusion was based on the findings that 1) the overall therapeutic efficacy of nicotinic acid as the sole medication in newly admitted patients was not superior to the overall therapeutic efficacy of an inactive placebo; and 2) the overall therapeutic efficacy of nicotinic acid as an adjunct medication to phenothiazines in newly admitted schizophrenics was inferior to the overall therapeutic efficacy of an inactive placebo. However, methodological problems inherent in clinical psychopharmacological studies make it impossible to conclude categorically that this treatment has no value. The practical decision of whether to prescribe nicotinic acid must be a clinical one in view of the absence of verified clinical or biochemical data. 1 reference.

109399 Toll, Nina. Middletown, Connecticut Megavitamin therapy -- a reader's view. *Schizophrenia Bulletin*. No.4:7, 1971.

A psychiatrist reports on 2 or 3 years of treating schizophrenic patients with nicotinic acid and with other vitamins. In about 80% of the cases, there was an improvement when large doses of nicotinic acid and vitamin C were introduced, especially in areas of perception and ability to concentrate. Nicotinic acid was taken with cold milk or an antihistamine and side effects were few.

111738 Vovina, Ye.N. Psikhonevrologicheskiy dispensar Petrogradskogo rayona Leningrada, Leningrad, USSR /Psychotropic drugs of prolonged effect in rehabilitation and readaptation of schizophrenic patients./ Psikhotropnyye preparaty prodlennogo deystviya v sisteme vosstanovitel'noy terapii i readaptatsii bol'nykh shizofreniyey. In: Kabanov, V., *Reabilitatsiya psikhicheskikh bol'nykh*. Leningrad, Min.Zdravookhraneniya RSFSR, 1971. 168 p.(p.55-60), v.59.

Fifty patients with chronic forms of schizophrenia were treated with fluphenazines, derivatives of phenothiazine with the piperazine

alkyl group in the side chain, for a period of 6 to 24 months as outpatients. The number of relapses decreased significantly and there was an increase in the outpatient period. Apathetic and inhibited patients displayed noticeable activation under the effects of fluphenazines, which enhanced the efficiency of social and professional readaptation of such patients. 24 references. (Author abstract modified)

111979 Slozhenikin, A.I. Moskovskaya psikhiatricheskaya bol'nitsa No.8 im.Z.P. Solov'yeva, Moscow /The significance of work therapy in paranoid schizophrenia./ K voprosu o znachenii trudovoy terapii pri paranoidnoy shizofrenii. In: Kabanov, V., *Reabilitatsiya psikhicheskii bol'nykh*. Leningrad, MIn.Zdrav.RSFSR, 1971. 168 p. (P.106-109), v.59.

The effect of work therapy combined with drug and recreational therapies on the course of progressive paranoid schizophrenia was studied in 70 patients assigned to work therapy and in 70 similar patients treated with neuroleptic agents, but not work therapy. Psychopathological symptoms became milder in the first group and the patients were hospitalized considerably less often and for shorter periods. On the other hand, the illness grew progressively worse in the control group and the frequency as well as the length of hospitalization increased. (Author abstract modified)

113429 Karakhodzhaeva, I.B.; Zaytsev, A.A.; Papliyan, M.Ye Kafedra psikhiiatrii Samarkand-skogo meditsinskogo instituta, Samarkand, Uzbek SSR /Copper salts in treatment of schizophrenia and their effect on insulin therapy./ Lecheniye shizofrenii solyami medi i vliyaniye ikh na insulinoterapiyu. *Meditsinskii zhurnal Uzbekistana (Tashkent)*. No.10:22-24, 1971.

Copper sulfate was used in treatment of 30 schizophrenic patients, among whom 17 suffered from the hallucinatory delirious form, 4 suffered from the same form but with a deep defect, 5 patients displayed the catatonic form and corresponding symptoms and 4 had symptoms of the hebephrenic form with juvenile tendencies. The patients received the copper sulfate internally in a dose of 5mg per day for a period ranging from 20 days to 1 month. Regardless of the form of illness, the locomotor state, up to pronounced excitation, was noticeably reduced by the 4th to 6th day of treatment. When motor excitation and hal-

lucinations were observed in the clinical pattern, the latter increased, although the motor excitation decreased considerably. The same pattern was observed when there were only hallucinations without motor excitation. It is concluded that copper salts may be used as a symptomatic drug to control motor disorders in schizophrenic patients, and copper sulfate intensifies hallucinations and the effect of insulin, used to treat schizophrenic patients. Problems of the indications and contraindications of using trace elements in treatment of schizophrenia require further clinical studies.

115399 Denham, John; Adamson, Leslie. St.Clement's Hospital, London, England The contribution of fluphenazine enanthate and decanoate in the prevention of readmission of schizophrenic patients. *Acta Psychiatrica Scandinavica (Kobenhaven)*. 47(4):420-430, 1971.

A comparison of the incidence of readmissions and the duration of hospital stay in a group of chronic schizophrenic patients who had received oral medication and then long acting injectable fluphenazine enanthate and decanoate over identical periods of time is reported. For 12-40 months, 93.9% of the subjects were maintained on continuous treatment. The readmissions rate was reduced from 191 to 50 and the time spent in hospital from 8713 to 1335 days following the injected medication. 34 references. (Author abstract modified)

115401 Itil, T.M.; Saletu, B.; Hsu, W.; Kiremitci, N.; Keskiner, A. Missouri Institute of Psychiatry, School of Medicine, University of Missouri-Columbia, St.Louis, MO Clinical and quantitative EEG changes at different dosage levels of fluphenazine treatment. *Acta Psychiatrica Scandinavica (Kobenhaven)*. 47(4):440-451, 1971.

The psychopathological and quantitative EEG changes of two matched groups of chronic schizophrenic patients, treated simultaneously with two different doses of fluphenazine, were compared. It was observed that the low dosage group showed greater improvement in depressive mood, emotional withdrawal, blunted affect, motor retardation, and less improvement in guilt feeling and ideas of grandiosity as compared with the high dosage group. These psychopathological findings suggest a stimulatory effect of fluphenazine in low dosage ranges, a finding confirmed by quantitatively analyzed EEG results. In

contrast to the high dosage group, which showed a decrease in fast activity, there was an increase of fast frequency activity in the low dosage group. The high dosage group exhibited more improvement in symptoms such as conceptual disorganization, unusual thought content, suspiciousness, and excitement, but at the same time revealed more motor retardation and somatic concern than the low dosage group. This was accompanied by a greater amount of slow activity as compared with the low dosage group. When both patient populations received the same high dosage, they generally showed more improvement in symptomatology than during previous treatment periods. The significance of these findings is discussed. 30 references. (Author abstract)

117022 Gallant, D.M.; Bishop, M.P.; Guerrero-Figueroa, R. Tulane University School of Medicine, New Orleans, LA Metiapine: a double-blind evaluation in chronic schizophrenic patients. *Current Therapeutic Research*. 13(12):734-736, 1971.

The effect of metiapine (2-methyl-11-(4-methyl-1-piperazinyl)-dibenzo (b,f) (1,4) thiazepine), a dibenzothiazepine derivative was evaluated in a controlled double-blind comparison against trifluoperazine using chronic schizophrenic patients. Analyses of efficacy measures indicated greater overall improvement for subjects receiving metiapine as compared with those receiving trifluoperazine. Untoward side effects were comparable within these two groups. It is concluded that metiapine is a highly active antipsychotic compound. 2 references.

117024 Sugerma, A.Arthur. New Jersey Bureau of Research in Neurology and Psychiatry, Princeton, NJ A pilot study of AL-1612 in chronic schizophrenics. *Current Therapeutic Research*. 13(12):743-746, 1971.

The effect of AL-1612(3-ethyl-6,7-dihydro-2-methyl-5 (4,4-ethylenedioxy)piperidinomethyl)-indole-4(5H)-one) on 12 chronic schizophrenic males administered for a period of 12 weeks is reported. Initial dosage was 50mg daily for all patients. Maximum daily doses ranged from 300 to 425mg, with six patients reaching doses of at least 400mg. Clinical ratings showed some degree of improvement in at least eight patients. The Brief Psychiatric Rating Scale showed significant improvement in emotional withdrawal, mannerisms and posturing, unusual thought content, and blunted affect, while the Nurses' Observation

Scale for inpatient evaluation showed significant improvement in social competence, personal interest and manifest psychosis. The compound has a notable hypnotic effect but no apparent effect on body weight. Side effects were mainly extrapyramidal. AL-1612 appears to have useful antipsychotic activity and is recommended for further trial. 5 references. (Author abstract modified)

118010 Kozhukhovskaya, I.I. no address /Use of experimental methods to determine shifts in the state of schizophrenic patients during treatment./ *Ispol'zovaniye eksperimental'nykh metodov dlya uchetov sdvigov v sostoyanii bol'nykh shizofreniyey pri lechenii*. In: Zeygarnik, B., *Psikhologicheskiye issledovaniya*. 3rd ed., Moscow, Moskovskiy Universitet, 1971. 168 p. (p.125-134).

The psychological characteristics of shifts in mental activity of schizophrenic patients under the effects of pharmacological agents were investigated. The multiple dynamic investigation permits more detailed analysis of the characteristics of judgements and associations of schizophrenic patients and determination of the dependence of thinking operations on the emotional and personality trend toward completion of assigned work. The procedures used proved their suitability in accounting for shifts in the state of patients. The methods of comparison, identification of concepts and elimination of objects were the most sensitive. 8 references.

118127 Krystof, Jan; Zyg, Jan; Miltkiewicz, Stanislaw; Kaczynski, Jerzy. Wojewodzki Szpital Chorob Ulkadu Nerwowego, Aleja 1000-lecia 30, Boleslawiec, Poland /Withdrawal symptoms following cessation of prolonged neuroleptic therapy./ *Objawy abstynencyjne po przerwanu dlugotrwalych kuracji neuroleptycznych*. *Psychiatria Polska (Warszawa)*. 5(4):417-423, 1971.

Forty nine hospitalized male chronic schizophrenics who were receiving neuroleptic therapy for periods of at least two years were observed for withdrawal symptoms following abrupt cessation of therapy. Sixteen patients reacted with increased perspiration, lowered arterial blood pressure, inclination to collapse, alternating feelings of warmth and cold, and insomnia. Some less frequent symptoms were constipation, diarrhea, nausea and vomiting, anorexia, paroxysmal bladder pain with vesical tenesmus, headache and dizziness, acceleration or slowing down of cardiac

action, elevated blood pressure, and increased body temperature. In general, patients were found to develop mild withdrawal symptoms for a period of two to nine days, beginning two to seven days after cessation of treatment with neuroleptics. Withdrawal psychoses and epileptic seizures were not noted, although it appears that abrupt cessation of prolonged neuroleptic therapy or considerable reduction of the dosages may cause vegetative withdrawal symptoms in some individuals. Extrapyrarnidal hyperkinesia which had been present prior to cessation of treatment became more intense in eight patients, and two displayed tardive hyperkinesia. 30 references. (Author abstract)

118129 Fortini, Krzysztof; Losiecko, Teresa. Klinika Psychiatryczna AM, ul. Nowowiejska 27, Warsaw, Poland /Evaluation of the clinical action of Pimozide./ Ocena kliniczna dzialania Pimozidu. *Psychiatria Polska (Warszawa)*. 5(4):429-431, 1971.

Pimozide was administered to 19 patients with diagnoses of chronic schizophrenic processes who had been ill for an average of approximately six years. The drug was employed in daily dosages of 4-14mg. Good therapeutic results were obtained in 13 cases, with improvement of anxiety symptoms, excitability, and psychotic production. Aside from weakly expressed signs of akathisia life restlessness and accommodation disorders, no side effects were noted during the course of treatment. (Author abstract)

118204 Bukowczyk, Adam; Brys, Jozef; Horodnicki, Jan M.; Wasik, August. Klinika Psychiatryczna AM, ul. Kraszewskiego 25, Wroclaw, Poland /Cholinesterase activity in the erythrocytes and blood plasma of schizophrenic patients during treatment with dimethyloaminoethanolic esters./ Aktywnosc cholinesteraz w krwinkach czerwonych i surowicy krwi chorych na schizofrenie w czasie leczenia estrami dwumetyloaminoetanolu. *Psychiatria Polska (Warszawa)*. 5(3):257-262, 1971.

Acetylcholinesterase (AChE) and cholinesterase (ChE) activity was investigated by the Augustinsson manometric method in 20 patients with paranoid schizophrenia, 10 with simple schizophrenia, and one with hebephrenia. A control group was comprised of 19 healthy individuals. No difference was found between the two groups in AChE activity, but ChE activity was approximately 100 units higher in the men-

tally ill patients. AChE and ChE activity was determined subsequently following administration of bimanol, an ester of p-acetamidobenzoic acid and dimethyloaminoethanol, in doses of 200 to 1000mg daily for 25 days. In the control group, esterase activity was determined after preincubation of the blood with various solutions of the drug in vitro. The drug in vitro did not undergo enzymatic hydrolysis. In the schizophrenic patients, oral administration of the drug was not found to stimulate synthesis of disintegrating enzymes or to inhibit esterase. In contrast, bimanol in vitro did not inhibit enzymes in either group at a degree proportional to the increase of its concentration in the sample. 18 references. (Author abstract)

118205 Kowarzyk, Zofia; Bukowczyk, Adam; Plenkowska, Teresa; Horodnicki, Jan; Rejek, Jan. Klinika Psychiatryczna AM, ul. Kraszewskiego 25, Wroclaw, Poland /Attempt to administer vectorcardiography in schizophrenia in an evaluation of the QRS complex./ Proba zastosowania wektorkardiografii w schizofrenii w ocenie zespolu QRS. *Psychiatria Polska (Warszawa)*. 5(3):263-270, 1971.

Vectorcardiographic examinations were conducted in the case of 30 schizophrenic patients prior to treatment and after five to seven weeks of chlorpromazine administration in order to evaluate the QRS complex. In seven out of the 30 subjects, in whom electroencephalography had not revealed any changes, symptoms of right sided prevalence of electric heart activity were distinguished. The control group consisted of patients from a surgical department in whom the pressure in the heart cavity had been measured. The diagnostic criteria for right sided prevalence were the same for the two groups investigated. Cardiac changes in schizophrenics appear to be attributable either to the state of hyper-serotoninemia or to the presence of a special type of metabolism accompanied by an increase in the level of serotonin or serotonin like compounds. 12 references. (Author abstract)

121259 Serafetinides, E.A. School of Medicine, University of California, Los Angeles, CA 90024 Perception and tolerance of pain as a measure of antipsychotic treatment. *Aggressologie (Paris)*. 12(5):357-359, 1971.

Pain was clinically assessed in 34 chronic schizophrenic women participating in a drug trial. It was found that the patients who showed a

higher tolerance for pain were also being maintained on higher dosages of chlorpromazine and had a better therapeutic outcome than patients with less tolerance for pain. It is concluded that tolerance to pain could be used as an additional measure for the assessment of tranquilizers in the treatment of psychotic patients. 4 references. (Author abstract modified)

121458 Marra, Mattia. Ospedale Psichiatrico S.Maria, Foggia, Italy /The association of benzodiazepine and phenothiazine in schizofrenia./ Associazione benzodiazepina fenotiazina nella schizofrenia. *Rassegna di Studi Psichiatrici (Stena, Italy)*. 60(6):865-872, 1971.

Oral administration of thioridazine in association with oxazepam to 20 schizophrenic patients resulted in good response in ten, satisfactory improvement in four, slight improvement in four and no response in two. The best response was obtained against psychomotor agitation, autism, negativism, anxiety, and hallucinations. Initially, the therapeutic schedule consisted of 60mg Oxazepam and 50mg thioridazine, gradually increasing to 180mg and 400mg, respectively, for 20 days. The dose of Oxazepam remained unchanged while the dose of thioridazine was decreased gradually and, 20 days before the discontinuation of treatment, the administration of thioridazine was stopped completely. The entire duration of treatment was 70 days. There were no side-effects or intolerance phenomena. The results suggest that the drug used in the present study has a rapid and beneficial effect against schizophrenia. 11 references.

125568 Saletu, B.; Saletu, M.; Ittl, T.; Jones, J. no address Somatosensory evoked potential changes during Thiothixene treatment in schizophrenic patients. *Electroencephalography and Clinical Neurophysiology (Amsterdam)*. 31(3):289, 1971.

At a meeting of the American Electroencephalographic Society, the effect of Thiothixene (a thioxanthene derivate) on the somatosensory evoked response studied in a group of nine chronic schizophrenic patients was reported. It was found, that the drug induces significant changes in latency and amplitude, predominantly in the later responses. The latency of several peaks increased markedly in the first three weeks (during low dosage drug treatment), whereas a further increase in latency during the high dosage treatment period seemed to be only slight. After

the discontinuation of drug administration, a decrease in latency was observed. The amplitude was shown to be a very sensitive control instrument, as the decrease in the amplitude in the low dosage drug period ceased during high dosage treatment, indicating an adaptation of the patient population to Thiothixene. During the posttreatment placebo period, the amplitude increased markedly, suggesting a rebound phenomenon. (Journal abstract modified)

125787 Dobrzanski, Tadeusz. Lomzynska 8, Warsaw, Poland /Attempt to treat stuporous states with fluphenazine combined with certain hormones./ Proba leczenia stanow oslupienia skojarzeniem flufenazyny z niektórymi hormonami. *Psychiatria Polska (Warszawa)*. 5(6):687-695, 1971.

In an evaluation of fluphenazine administered together with hormones to 52 patients in stuporous states, a group without metabolic acidosis and a group with acidosis were singled out, and in each of these groups patients were subdivided further according to the presence of normoglycemia or hyperglycemia. Fluphenazine in doses of 4-5mg daily, hydrocortisone in doses of 75-150mg daily, testosterone in doses of 25-50mg daily, estradiol in doses up to 5mg daily, and zinc protamine insulin in doses of 4-8 units daily were administered simultaneously. Treatment was very effective particularly in patients with catatonic stupor in the course of schizophrenia and in those with hysterical stupor. The therapeutic effect consisted in rapid total remission of the stupor state, usually within 3-7 days. 30 references. (Author abstract)

## 09 DRUG TRIALS IN AFFECTIVE DISORDERS

077823 Park, Sanghae; Glick, Burton; Floyd, Arthur; Gershon, Samuel. Neuropsychopharmacology Research Unit, Dept. of Psychiatry, New York University Medical Center, 550 First Ave., New York, New York 10016 Ketipramine fumarate as compared to imipramine in depressed outpatients. *Current Therapeutic Research*. 13(5):322-325, 1971.

Ketipramine, a new compound of the imidobenzyl series, differing from imipramine in the substitution of an oxygen in position 10, was found to have pharmacologic properties similar to imipramine as an antidepressant. Its therapeutic efficacy was assessed in a comparative study with

imipramine in an outpatient population of 13 psychotic and neurotic depressives, the ketipramine group with 8 subjects and the imipramine group with 5 subjects. No significant difference was found during the 5 weeks of the study between the ketipramine treated subjects (dosage of 50 to 200mg/day) and the imipramine treated subjects (dosage of 100 to 150mg/day) in terms of symptom relief, except for a trend favoring ketipramine. Side-effects, also, were less in this drug. 9 references.

077867 Billings, Edward G. 1820 High Street, Denver, Colorado 80218 Prophylactic lithium therapy: some clinical applications. *Rocky Mountain Medical Journal*. 68(4):25-28, 1971.

Since the spring of 1970, lithium has been approved by the FDA for use in the treatment of manic-depressive disorders. A brief review of the 185 patients treated by this means within a period of 4 years is presented, with particular attention to the treatment of 31 patients. Impressions resulting from this study are to the effect that, in therapeutic dosage, lithium carbonate has little or no effect on the emotionally normal person; that it is effective in normalizing the mood of the hypomanic and manic patient, although in severe mania tranquilizers and electroshock treatment may precede the administration of lithium before the mood is normalized; and lithium has little effect by itself in decreasing the severity and duration of severe depression. In conjunction with the tricyclic and MAO inhibiting antidepressants, lithium has been found useful, and it is suggested that it may be used effectively in the prevention of recurrences of cyclic disorders, at least in modifying the severity of these mood changes. The prophylactic value of the drug is illustrated by 4 cases. Great caution is recommended in the use of lithium carbonate since the dosage for the therapeutic effect is very close to that of its toxic effect. 8 references.

078156 Bianchi, G. N.; Barr, R. F.; Kiloh, L. G. University of New South Wales School of Psychiatry, Prince Henry Hospital, Little Bay, New South Wales 2036, Australia A comparative trial of doxepin and amitriptyline in depressiveness. *Medical Journal of Australia (Sydney)*. 1(16):843-846, 1971.

A double-blind study of doxepin (a dibenzoxepin tricyclic derivative) and amitriptyline is presented in 50 patients with depressive illness.

The initial dosage was 4 capsules (25mg each) per day, increasing to 8 capsules per day after 3 days. After 7 days, the dosage was varied according to clinical requirements and intensity of side-effects. Each patient was rated on the Hamilton depression scale on entry to the trial and after 7, 14, 21 and 35 days as well as by clinical assessment, and side-effects were noted. At the 21st and 35th days of treatment, the response was similar in both drugs. At 35 days approximately 50% of each treatment group showed marked improvement or recovery, and about 25% more including moderately improved patients. The amitriptyline gave rise to more intense side-effects than doxepin, if the age factor in the 2 groups can be disregarded. A white cell decrement occurred only with doxepin. 11 references.

079064 Brodie, H. Keith H.; Murphy, Dennis L.; Goodwin, Frederick K.; Bunney, William E., Jr. Department of Psychiatry, Stanford University School of Medicine, Stanford, California 94305 Catecholamines and mania: the effect of alpha-methyl-para-tyrosine on manic behavior and catecholamine metabolism. *Clinical Pharmacology and Therapeutics*. 12(2):218-224, 1971.

Biochemical and behavioral data are obtained from a study of the effect of alpha-methyl-para-tyrosine (AMPT) on manic behavior and catecholamine metabolism. To evaluate the therapeutic role of catecholamines in affective illness, AMPT, an inhibitor of catecholamine biosynthesis, was given to 7 manic and 3 depressed patients under double-blind conditions. Five of the 7 manic patients became less manic, while the 3 depressed patients became more depressed. Urinary excretion of catecholamine metabolites and dopamine was significantly decreased in all. These behavioral and biochemical changes confirm previous indirect evidence implicating catecholamines in affective disorders. 25 references. (Author abstract modified)

083393 O'Regan, J. B. 113 Pallsades, Saskatoon, Sask. Depression eased by MAO inhibition. *Canadian Medical Association Journal (Ottawa)*. 5(104):426, 1971.

A case is presented of a patient with reactive depression who responded to treatment with tranlycypromine (Parnate), an antidepressant. The patient had become withdrawn and irritable after being separated from her siblings but lost her irritation and became interested in her surroundings

with a monoamine oxidase (MAO) inhibitor. The unusual thing in the case was that the patient was a 4 year old female whippet dog.

**085448** Bunney, William E., Jr.; Brodie, Keith H.; Murphy, Dennis L.; Goodwin, Frederick K. Laboratory of Clinical Science, National Institute of Mental Health, 9000 Rockville Pike, Bethesda, Maryland 20014 Studies of Alpha-methyl-para-tyrosine, L-dopa, and L-tryptophan in depression and mania. *American Journal of Psychiatry*. 127(7):872-881, 1971.

L-dopa and L-tryptophan, metabolic precursors of norepinephrine and serotonin respectively, and alphaMPT, a blocker of catecholamine synthesis, were administered to depressed and manic patients in an attempt to decrease their psychopathology and to test the monoamine theory of affective disorders. L-dopa and alphaMPT clearly altered mood and thought patterns in some patients, while L-tryptophan was less active. Analysis of urinary and cerebrospinal fluid amine metabolites documented the metabolic effects of the compounds during periods of behavioral change. 52 references. (Author abstract)

**086356** Goldfield, Michael; Weinstein, Morton R. Langley Porter Neuropsychiatric Institute, 401 Parnassus Ave., San Francisco, Calif. 94122 Lithium in pregnancy: a review with recommendations. *American Journal of Psychiatry*. 127(7):888-893, 1971.

Studies on the teratogenicity of lithium salts during pregnancy revealed conflicting evidence. They believe lithium therapy should be initiated during pregnancy only in severely manic women who are unresponsive to other therapy and for whom continuing manic behavior would jeopardize their own or their babies' lives. They offer 6 cautions in the use of lithium during pregnancy, including avoidance of diuretics and of salt restriction. In addition, they announce the formation of an American Registry of Lithium Babies. 22 references. (Journal abstract)

**086519** Radmayr, E. Bahnhofplatz, A-6850 Dornbirn, Austria /Treatment of depression by infusion technique./ Die Infusionsbehandlung der Depression. *Wiener Medizinische Wochenschrift (Wein)*. 121(20/21):422-427, 1971.

The efficacy of chlorimipramine (Anafranil) infusion in patients with depression was investigated in 345 patients who had been treated at

least one year previously. The patients (249 women, 96 men) all suffered from various types of depression (paranoid, climacteric, involutional, endogenous, mixed psychoses) and ranged in age between 20 and 80 years. Most infusions, conducted over a 1 hr period, contained 25mg chlorimipramine; 10 or 15mg doses were used in particularly labile patients. The conclusions drawn from this method of treatment for this patient population were: infusion is more effective than the i.m. injection of a similar dose; infusion acts more rapidly; a combination with other therapeutic measures is possible; electroshock therapy is avoided in refractory patients; suicide is often avoided because of the rapid effect at the beginning of therapy; the phase duration of depression is markedly decreased; the interval between phases of depression appears to be increased; and the treatment is well tolerated without untoward complications. 3 references.

**086522** Hasan, K. Zaki; Akhtar, M. Iftikhar. Department of Neuropsychiatry, Jinnah Postgraduate Medical Centre, Karachi, Pakistan Double blind clinical study comparing doxepin and imipramine in depression. *Current Therapeutic Research*. 13(6):327-336, 1971.

A new antidepressant, doxepin, was tested against imipramine for its ameliorative effects in depressive states and for possible side-effects. In a double-blind study the patients were tested with 25mg of either drug t.d.s., 17 receiving imipramine and 16 receiving doxepin over a 5 week period. The Hamilton rating scale was used weekly in the evaluation of depression. When the baseline and final scores were compared, improvement was demonstrated in both groups, with a more rapid onset of action with imipramine though doxepin had a more sustained effect. Imipramine was somewhat more effective against such symptoms as depressed mood, suicidal idea, guilt feelings, psychic and somatic anxiety and general somatic symptoms. There were fewer side-effects in the doxepin group; 4 patients complained of dryness of mouth and one complained of sedation. 9 references.

**087023** Bukowczyk, Adam; Domagalski, Jerzy; Siwczynski, Jerzy; Wilczkowska, Krystyna. ul. Kraszewskiego 25, Klinika Psychiatryczna AM, Wrocław, Poland /Studies on the antidepressant action of Doxepin (Sinequan)./ Badania nad Działaniem antydepresyjnym doksepiny (Sinequan). *Psychiatria Polska (Gdansk)*. 2(5):197-200, 1971.

Doxepin administered in 150 to 300mg doses per day to 11 females and 9 males between 28 to 57 years of age with depressive syndromes of various etiology produced significant improvement in 12, moderate results in 4 and no response in 3. Improvement was observed during the first or second week of treatment which generally lasted 5 weeks. The best results were observed in patients with reactive or involutional depression. No response was observed in one case of chronic neurosis complicated by circulatory insufficiency, in one case with depression and psychopathy and in one chronic alcoholic. Side-effects included insomnia in 3 cases, and individual complaints of anginal pain, weakness, internal disorders, dry and burning sensations in the mouth, irritability and headaches. Nine of the 18 patients suffered from depression for the first time; 13 had previously attempted suicide. A majority of the patients had formerly taken neuroleptics and tranquilizers without any effect. 9 references.

087034 Smuljevic, A. B.; Wolkowa, R. P. Institute fur Psychiatrie der Akademie der Medizinischen Wissenschaften der UdSSR, Moscow, U.S.S.R. /Thymoleptic effects of a new dibenzodiazepine derivative./ *Thymoleptische Wirkung eines neuen Dibenzodiazepin-Derivates. Schweizer Archiv fur Neurologie, Neurochirurgie und Psychiatrie (Zurich)*. 108(1):109-174, 1971.

Sixty seven patients were treated with Noveril (HF-1927, dibenzepin). The diagnoses were as follows: schizophrenia, 41 patients; manic-depressive psychosis, 24 patients, and endoreactive dysthymia, 2 patients. The dosage used was 160 to 400mg daily, and the duration of treatment was between 1.5 to 6 months or in some cases even longer. The following side-effects were observed: disturbed sleep (8 cases), allergic dermatitis (1 case), increase of blood pressure (5 cases, of which 4 showed as deteriorated psychiatric condition). The completed study shows that Noveril possesses a stimulating effect as well as antidepressant effect. The drug is particularly suitable for the treatment of adynamic, psychomotoric inhibited depressions. 32 references. (author abstract)

087291 Philippen, Norbert; Volker, Thorwith. Institut fur Psychologie der RWTH, BRD-5100 Aachen, Germany /The effect of a thymoleptic drug upon inhibition of drive in endogenous depression: a quantitative statistical investigation./ *Quantitative Untersuchungen uber den Einfluss eines Thymolep-*

*tics auf die Antriebshemmung endogener Depressionen. Archiv fur Psychiatrie und Nervenkrankheiten (Berlin)*. 214(2):150-164, 1971.

A study of a group of 20 women with periodic endogenous depression was conducted for 2.5 to 8 weeks associated with evaluation of daily mood changes, loss of appetite, sleep disturbance, weight changes, and subjective (according to patient) and objective (according to physician) inhibition of drive. Chlorimipramine infusion was administered 9 to 16 times in gradually increasing doses up to a maximum of 150mg/day following which oral medication was administered (150mg chlorimipramine/day) to 13 patients. The other 7 patients were treated with the chlorimipramine (125mg/day p.o.) immediately after the first examination. Auditory and visual reaction time as well as the reaction time to a test situation which calls for the subject to use his judgment were tested and quantified. Another psychological test measured pressure in writing; attention to detail constituted a perception test that was included. The results revealed clinical and psychological improvement with thymoleptic treatment and pointed to the localization of drive inhibition in the higher integrative centers of the central nervous system. 16 references.

087469 Mendels, J.; Frazer, A.; Secunda, S. K.; Stokes, J. W. Dept. of Psychiatry, Univ. of Pennsylvania, Philadelphia, Pennsylvania 19104 Biochemical changes in depression. *Lancet (London)*. 1(7696):448-449, 1971.

This letter to the editor discusses biochemical changes in depression. Investigations on alterations in electrolyte distribution in depressed or manic patients are reviewed. The effect of lithium on brain electrolytes is being investigated and biochemical findings of a manic-depressive state are presented. Increased intraerythrocyte sodium and urinary 5-hydroxyindolacetic acid and vanillylmandelic acid correlated with clinical improvement in depression. It is suggested that changes in the ATPase system are involved in these biochemical findings. 9 references.

088385 Buchsbaum, Monte; Murphy, Dennis; Goodwin, Frederick; Borge, George. Laboratory of Psychology, National Institute of Mental Health, Bethesda, Maryland 20014 AER in affective disorders (Unpublished paper). Bethesda, Maryland, NIMH, 1971. 16 p.

Average evoked responses (AER) to 4 intensities of light were obtained in a group of 66 patients with affective disorders. Thirty seven patients, whose histories included episodes of both mania and depression, were classified as bipolar; the remaining 29 patients, whose histories included episodes of depression only, were classified as unipolar. Bipolar patients, whether depressed or manic, were found on baseline testing to have relatively greater rates of increase of AER amplitude with increasing stimulus intensity (or augmenting) than unipolar patients, who often showed decreases in AER amplitude with increasing stimulus intensity (or reducing). Lithium treatment, especially in bipolar patients, appeared to lessen the tendency toward augmentation. The separation of depressed bipolar and depressed unipolar patients on the basis of different AER responses is evidence in support of this diagnostic distinction, as is their differential responsivity (both clinically and on the AER procedure) to lithium. 21 references. (Author abstract)

088690 Schou, Mogens. Psykofarmakologisk Institut, Statshospitalet, DK-8240 Risskov, Denmark /Lithium prophylaxis in manic-depressive psychoses./ Die Lithiumprophylaxe bei manisch-depressiven Psychosen. *Nervenarzt (Berlin)*. 42(1):1-10, 1971.

Single blind and double-blind studies under controlled conditions have shown conclusively that lithium exerts a prophylactic action in the bipolar or monopolar course of manic-depressive psychoses, although the mechanism of this action is as yet unknown. In treatment with lithium, the maintenance dose must be determined on an individual basis by controlling the lithium serum level. If the level is too low, there is the danger of recidivism; the danger of lithium poisoning is to be guarded against in high doses, concentrations of more than 2mEq/l indicating toxicity. The lithium dose should be reduced when the serum level is between 1.3 and 2.0mEq/l. The side-effects regarded as harmless are: slight nausea, single occurrences of soft stools, fine hand tremor, slight dizziness, transitory muscular weakness, polydipsia and polyuria, gain in weight, and struma. The side-effects to be guarded against are: severe nausea and vomiting, diarrhea, gross tremor, weakness, abnormal drowsiness, severe dizziness and dysarthria. Lethal results are known to have occurred with high dosage. 32 references. (author abstract modified)

089002 Kline, Nathan S.; Swenson, Jannette. 40 E. 69 Street, New York, New York 10021 An unusual re-evaluation of Marsilid as an antidepressant. *Current Therapeutic Research*. 13(4):264-268, 1971.

The case history of a 26 year old female patient suffering from depression is related. Upon psychiatric referral, the patient was treated with a variety of antidepressants with no favorable response. The subject was given Marsilid and had a normal pregnancy during the course of treatment with this drug, which was discontinued two weeks prior to delivery. The subject was placed on a placebo at this time and was continued on various other antidepressants postpartum since Marsilid had been withdrawn from the market. No other drug tested produced as favorable a response in this patient as did Marsilid. In conclusion, several MAO inhibitors may have to be tested until improvement is noted, with care taken because of the tendency of these drugs to lower convulsive threshold. The case for Marsilid retreatal and assessment is presented.

089067 Thiel, E. Bezirkskrankenhaus, BRD-8800 Ansbach, Germany /A proposal for a consistent night therapy for the mental patient; conjointly, a causistic contribution to a day night therapy for depressions with psychotropic drugs./ Ein Vorschlag zu einer konsequenten Nacht-Therapie psychisch Kranker; zugleich ein kasuistischer Beitrag zu einer Tag-Nacht-Therapie depressiver Erkrankungen mit Psychopharmaka. *Nervenarzt (Berlin)*. 42(3):157-161, 1971.

Two types of therapy are proposed for the treatment of endogenous psychoses. These consist of a 'daytime' therapy and a combined 'night' therapy. This notion is based on the different physiological types of sleep, the delta deep sleep with its restorative and anabolic effect on the one hand, and the REM sleep with its affective abreaction and important dream participation, on the other hand. The production of these 2 forms pharmacologically was designed for the somatic recuperation and for the emotional effect on the patient suffering from a depressive experience. EEG tracings were obtained in a series of patients who were treated in this manner for depression, without definite proof of the therapeutic effect. Some of the factors in the evaluation of the EEG's and the sleep cycles are discussed. 44 references.

089070 Helmchen, H.; Kanowski, S. Psychiatrische Klinik der Freien Universität Berlin, 36 Nussbaumallee, BRD-1000 Berlin 19, Germany /EEG changes with lithium therapy./ EEG-Veränderungen unter Lithium-Therapie. *Nervenarzt (Berlin)*. 42(3):144-148, 1971.

EEG recordings were obtained in 130 instances on 73 patients with manic depression being treated with lithium. The efficacy of the medication was demonstrated in the tracings taken before and during lithium therapy, both in combination with other drugs and without other drugs, and also after the treatment was discontinued. Massive EEG changes can be seen after only 3 days of lithium therapy. The blood lithium levels, however, could not be correlated with the EEG changes. The qualitative changes in the EEG correspond to results by some of the other psychotherapeutic agents. Practical methodological difficulties are discussed. 24 references.

089301 Cwynar, Stanislaw; Krasilewicz, Ryszard; Wojdyslawska-Wald, Irena. Klinika Psychiatryczna AM, ul. Aleksandrowska 159, Lodz /Noveril--an antidepressant agent./ Dwubenzepina (Noveril)--lek o działaniu antydepresyjnym. *Psychiatria Polska (Gdansk)*. 5(2):201-205, 1971.

Noveril (Sandoz) was used in the treatment of 45 patients with depressive symptoms. Good or very good improvement was attained in 30 patients; insignificant improvement or lack of response was found in 15 patients. Favorable effects were noticed in endogenous and neurotic depressions, and in depressive syndromes in the course of schizophrenia (by combining Noveril with neuroleptics). At first, the patients showed improvement of mood and felt more comfortable, subsequently slowing down of the motor and thinking processes occurred and there was an increase in vital drive and activity. Noveril acts rapidly and is well tolerated by the organism; it does not cause complications or changes in the internal organs. Side-effects are mild and of transient character. The drug was found safe and easy to use in outpatient treatment. 10 references. (author abstract)

089336 Cade, J. F. J. Royal Park Psychiatric Hospital, Private Bag 3, Parkville, Victoria 3052, Australia Recent advances in the use of lithium. *Australian and New Zealand Journal of Psychiatry (Carlton)*. 5(1):3-4, 1971.

A methodologically impeccable double-blind discontinuation study in 2 groups of patients, bipolar manic-depressives and recurrent endogenous depressives was carried out by Baastrup and Schou in order to validate their clinical impression that lithium was prophylactic against recurrent depression. As a result of a study in 38 pairs of patients, there were 12 relapses among the manic-depressives and 9 among the recurrent depressives, all of which had been placebo patients; no relapses occurred among the lithium treated patients. The therapeutic value of lithium has been proposed in the treatment of some schizophrenics exhibiting manic features. For a therapeutic effect, it would be helpful to determine which patients will respond to lithium treatment. A test by Serry is described based on urinary excretion of lithium. 7 references.

092154 Handlarz, Mario C. Clinica Psiquiatrica, Facultad de Medicina, Buenos Aires, Argentina /Our experience with thioridazine in depressive states./ Nuestra experiencia con el uso de la tioridazina en el tratamiento de los estados depresivos. *Acta Psiquiatrica Psicologica de America Latin (Buenos Aires)*. 17(1):39-45, 1971.

From practical experiences with the use of thioridazine, the following conclusions were drawn. Thioridazine presents estimable advantages with respect to other neuroleptic medications. In depressives it permits discarding of the electrical shock in cases which previously required it. In contrast to monoaminooxidase inhibitors, no secondary reactions are produced with the prescribed dosage which are of a lower quantity and are nontoxic. The drug is easy to administer. It develops only a weak neurodepressant action and allows effective treatment of seriously affected ambulatory patients avoiding the traumatizing segregation of familial development and difficult activity. The libido is not increased principally in the woman, in males thioridazine produces lower percentage of decreased libido than other drugs. 4 references. (Journal abstract modified)

092453 Demers, Robert G. Department of Psychiatry, Baltimore City Hospitals, 4940 Eastern Avenue, Baltimore, Maryland 21224 Psychosocial profiles and efficacy of lithium treatment. *Diseases of the Nervous System*. 32(4):249-254, 1971.

In a retrospective study of 14 patients with an affective disorder, 5 treated with lithium and 9

treated simultaneously with lithium and a major tranquilizer, the following statements can be made. The addition of a major tranquilizer was required to effectively and humanely treat the severely disturbed manic patient regardless of diagnosis. A high risk individual who is likely to become violent and/or psychotic when manic can be identified through psychosocial information. Further research into the relationship of psychosocial variables to drug response should be undertaken. 19 references. (Author abstract)

**092514** Small, Joyce G.; Small, Iver F.; Moore, Donald F. Department of Psychiatry, Indiana University School of Medicine, 1315 W. 10th St., Indianapolis, Ind. 46207 Experimental withdrawal of lithium in recovered manic-depressive patients: a report of five cases. *American Journal of Psychiatry*. 127(11):1555-1558, 1971.

A single blind study was conducted to determine whether patients with manic-depressive disease who responded favorably to lithium would show significant change when placebo was substituted. Symptoms recurred in all subjects within 6 weeks of placebo substitution, and clinical stability returned when lithium treatment was resumed. These findings are discussed in relation to the question of the prophylactic influence of long-term maintenance on lithium. 2 references. (Journal abstract)

**092801** Malitz, Sidney; Kanzler, Maureen. New York State Psychiatric Institute, 722 W. 168th St., New York, N. Y. 10032 Are antidepressants better than placebo? *American Journal of Psychiatry*. 127(12):1605-1611, 1971.

A study was designed to evaluate the antidepressant qualities of diphenylhydantoin (Dilantin), dextroamphetamine, amitriptyline, perphenazine, amitriptyline, diazepam, nortriptyline, AY-62014 (a cycloheptadiene), amitriptyline, and a placebo. A comparison of 203 depressed outpatients who were randomly assigned to 1 of the 7 active drug treatment groups or to a placebo group demonstrated that the inclusion of a placebo group is essential for valid assessment of the efficacy of antidepressant drugs. Although all groups improved on depression ratings in relation to their own baselines, only 1 group achieved a level of improvement that was significantly better than that of the placebo group. 3 references. (Author abstract modified)

**092897** Gershon, Elliot S.; Bunney, William E., Jr.; Goodwin, Frederick K.; Murphy, Dennis L.; Dunner, David L.; Henry, George M. Section on Psychiatry, Laboratory of Clinical Science, National Institute of Mental Health, Bethesda, Maryland 20014 Catecholamines and affective illness: studies with L-dopa and alpha-methyl-para-tyrosine (Unpublished paper). Bethesda, Maryland, NIMH, 1971. 16 p.

Previous data are reviewed and new data are presented on the clinical effects of L-dihydroxyphenylalanine (L-dopa) and alpha-methyl-para-tyrosine (aMPT) in the affective disorders and on the biochemical pharmacology of these agents in man and in the laboratory animal. These studies were prompted by the catecholamine hypothesis, which remains of central importance in current research in the affective disorders: the possible association of depressions with a deficiency of catecholamines in the brain and mania with an excess of these amines. The series of investigations is concerned with the clinical effectiveness of L-dopa and aMPT in stimulating or inhibiting catecholamine synthesis and activity in the central nervous system (CNS), and with the changes in affective state that result when these substances are used as psychopharmacologic agents. Patients with moderate to severe depression or mania, requiring hospitalization, were studied. As a therapeutic agent in depression, L-dopa was not associated with improvement in most of the patients treated. aMPT was associated with improvement in mania in 5 patients and with worsening in 2. The results suggest that biochemical changes associated with these pharmacologic agents may be more consistently related to the pathophysiology of mania and hypomania than to depression. Among the notable biochemical changes produced by aMPT and L-dopa are alterations in turnover and level of CNS monoamines. 71 references.

**092899** Chase, Thomas N.; Watanabe, August M. Laboratory of Clinical Science, National Institute of Mental Health, Bethesda, Maryland 20014 Antiparkinsonian efficacy and toxicity of L-dopa alone and in combination with alpha-methyl-dopahydrazine (MDH) (Unpublished paper). Bethesda, Maryland, NIMH, 1971. 5 p.

The failure in approximately one third of parkinsonian patients to improve at maximum permissible dose levels of L-dopa, or development of intolerable side effects from the drug, has

prompted study of the clinical and biochemical effects of orally administered L-dopa given alone or in combination with the peripheral decarboxylase inhibitor, alpha-methyl-dopahydrazine (MDH). Twenty eight patients with various neurological disorders including 12 with parkinsonism were treated with L-dopa for 2 to 18 months or with L-dopa plus MDH for 1 to 13 months. The results of this study suggest that MDH potentiates the antiparkinsonian efficacy of orally administered L-dopa, while substantially diminishing gastrointestinal toxicity. Furthermore, use of this drug combination markedly reduces the time needed to achieve an optimal therapeutic response to L-dopa.

092932 Wharton, Ralph N.; Perel, James M.; Dayton, Peter G.; Mallitz, Sidney. Dept. of Psychiatry, Columbia University College of Physicians and Surgeons, New York, N. Y. A potential clinical use for methylphenidate with tricyclic antidepressants. *American Journal of Psychiatry*. 127(12):1619-1625, 1971.

Seven patients with recurrent refractory psychotic depressive illness were treated with tricyclic antidepressants plus methylphenidate (Ritalin). The effect of methylphenidate appears to involve an increase in the blood levels of antidepressants through enzymatic inhibition of the metabolism of imipramine and desmethylimipramine that is concomitant with clinical improvement. The potentiation by methylphenidate may have important implications for the treatment of depression. 30 references. (Author abstract)

093454 Goodwin, Frederick K.; Murphy, Dennis L.; Dunner, David L.; Bunney, William E., Jr. Section on Psychiatry, Laboratory of Clinical Science, National Institute of Mental Health, Bethesda, Maryland 20014 Differential response to lithium in bipolar vs unipolar depressed patients (Unpublished paper). Bethesda, Maryland, NIMH, 1970. 9 p.

The differential therapeutic response to lithium carbonate administration in 2 major subgroups of hospitalized, depressed patients was evaluated. A study was undertaken employing 40 bipolar and 11 unipolar patients; patients were systematically assigned to either the unipolar or bipolar category independently of the evaluation of antidepressant response. The overall results are summarized. Of the total of 51 patients, 38 showed improvement

on lithium and 14 of these were scored as unequivocal responses. Forty percent of the patients scored as responders (either unequivocal or probable) experienced complete remission of symptoms while on lithium. Eighty percent of the bipolar depressed patients showed apparent therapeutic response to lithium as compared with only 36% of the unipolar patients. The results suggest that depressed patients with a prior history of mania or hypomania (bipolar) are more likely to show an antidepressant response to lithium than are depressed patients without such a history (unipolar). 20 references.

093702 Perier, M.; Eslami, H. author address not given /Clinical evaluation of the antidepressant effects of doxepine./ Evaluation clinique des effets anti-dépresseurs de la doxépine. *Annales Medico Psychologiques (Paris)*. 1(4):581-587, 1971.

A double-blind comparative study of a new product, Doxepine, and a reference product, Imipramine, was conducted in the neuropsychiatric center of the hospital 1968. The method of applying the 2 drugs to 62 hospitalized patients suffering from depression or symptoms characteristic of depression is described. The results of the research study indicate that: (1) Doxepine had an essentially psychotropic action; (2) the action at first had a sedative and anxiolytic effect; and (3) the second effect was to function as an antidepressant which acted on the very basis of the affected mood. A comparison of the antidepressant effects of Imipramine and Doxepine showed that Imipramine was stronger. On the other hand, Doxepine proved easier and less dangerous to administer in cases where endogenous depression is diagnosed with a lesser degree of certainty. Doxepine appears to produce only rarely a recrudescence of anxiety or a delirious efflorescence. Furthermore, Doxepine is a medication which is clinically and biologically well tolerated. Its relatively easy administration, within the framework of the dosages used in the research study, and its effectiveness appear to represent advantages justifying its use in psychotropic pharmacology.

093815 Hommes, O. R.; Panhuysen, L. H. H. M. Dept. of Neurology and Psychiatry, Catholic University, Nijmegen, The Netherlands Depression and cerebral dominance: a study of bilateral intracarotid amytal in eleven depressed patients. *Psychiatria, Neurologia, Neurochirurgia (Amsterdam)*. 74(3):259-270, 1971.

To determine the relation between depth of depression and cerebral speech dominance and to determine if the effect of amytal injections could be produced in depressed patients, 11 untreated depressed patients were studied with bilateral intracarotid amytal injections. A close negative relationship between depth of depression and level of left speech dominance was found. Amytal produced an increase of mood in all patients lasting 60 minutes and then declining during the following hours. A difference in this aspect was found between left and right injections; the supposition may be formulated that in normal people the preeminence of a positive mood depends on the presence of a well organized hemispherical dominance. It is hypothesized from the data that in depressed patients both hemispheres have the organizational structure of the nondominant type. 16 references.

095155 Gold, B.; Ecanow, B.; Balagot, R.; Levinson, R. University of Illinois, Medical Center, Chicago, Illinois Lithium carbonate and erythrocyte aggregation states. *Diseases of the Nervous System*. 32(6):415-417, 1971.

An investigation was designed to test the possibility that the systematic addition of lithium carbonate to blood drawn from manic patients would produce changes in aggregation state similar to that obtained in our earlier experiments with chlorpromazine. Effects of lithium carbonate on the blood differ significantly from the action of chlorpromazine. Flocculated aggregations of cells are dispersed into individual units and reflect an alert, active mood in the patient. There is very little drug hangover effect. Dosage effects are discussed as are plans for future studies. 7 references.

095157 Koknel, Ozcan; Eper, Oya. Clinic of Neuropsychiatry, University of Istanbul, Istanbul, Turkey A study with sinequan (Doxepin). *Diseases of the Nervous System*. 32(6):405-408, 1971.

Sinequan (Doxepin), a new dibenzoxepin, has a structural formula closely resembling that of amitriptyline. Twenty five patients suffering from depression, neurosis and schizophrenia were treated with sinequan. The results were as follows: sinequan was effective on symptoms of anxiety and depression; it was effective on symptoms of insomnia, headaches, distress, psychosomatic symptoms, uneasiness, pensiveness, disorders of willpower and anorexia. Antidepressive and tranquilizing properties are outstanding fea-

tures of the drugs. No serious side effects were noted. 4 references.

095220 Sheard, Michael H. Dept. of Psychiatry, Yale Univ. School of Medicine, Conn. Mental Health Center, New Haven, Conn. Effect of lithium on human aggression. *Nature (London)*. 230(5289):113-114, 1971.

A clinical trial indicates that lithium is effective for treatment of manic and hypomanic phases of manic depressive psychosis. The trial was conducted on 12 male prison inmates chosen on the basis of preprison histories of violent assaults, and aggressive behavior in prison. Lithium reduced aggressive affect, and side effects were uncommon except for mild nausea and loss of appetite for the first several days; an increase in thirst; and somesleeplessness. Reaction was most favorable with mesomorphic types who typically have poor reactions to other drugs. Lithium's inhibition of aggression seems to depend on adaptive significance of individual behavior, constitutional factors, and opportunities for development of new behavior modes. 14 references.

095450 Moore, J. N. P. St. Patrick's Hospital, Dublin, Ireland Drugs and their abuse: No. 1--the abuse of anti-depressant drugs. *Journal of the Irish Medical Association (Dublin, Ireland)*. 64(411):258-262, 1971.

The optimal use and the dangers of misuse and abuse of antidepressant (thymoleptic) drugs are discussed under topics that include: (1) the tricyclic antidepressants (such as imipramine and amitriptyline); (2) the mono-amine-oxidase inhibitors (such as ipronazid, phenelzine, tranylcypromine); (3) inexact prescribing; (4) failure to persevere (desultory prescribing); (5) drug dependence (by the patient and by the doctor); (6) unexplained side effects; (7) dangers of polypharmacy; (8) ignoring the dangers of depression symptoms (potential suicide); and (9) the need for accurate perception of the clinical picture prior to drug prescription. Additionally, a table sets forth some clinical pointers designed to aid in deciding the relative dominance of endogenous and reactive features in any given case of depression.

095537 Klerman, Gerald L. Harvard University Medical School, Boston, Massachusetts Methodology for drug evaluation in affective disorders: depression. In: Levine, J., *Principles and problems of psychotropic agents*. Washington, U.S. Government Printing Office, 1971. 392 p. (p. 91-122).

The major principles and trends in developing criteria of efficacy related to the methodology of drug evaluation in depression are reviewed. Certain clinical features of depressions which are pertinent to the development of research design and to understanding the discrepancies in reports on the efficacy of antidepressant drugs are: semantics; the heterogeneity of the clinical phenomena; the high spontaneous improvement rate; and problems in quantitative assessment of depressive phenomena. Preclinical studies, preliminary trials in human beings, early clinical trials, controlled clinical trials, postmarketing studies, large scale studies using pooled data or collaborative designs, and prophylactic or maintenance studies are discussed in regard to selection of patients, settings, criteria of effectiveness, design, drug variables, and statistical methods. 64 references.

095538 Gershon, Samuel. New York University Medical Center, New York, New York Methodology for drug evaluation in affective disorders: mania. In: *Levine, J., Principles and problems of psychotropic agents*. Washington, U.S. Government Printing Office, 1971. 392 p. (p. 123-136).

The methodology for drug evaluation in mania is discussed. Special problems in evaluation in mania result from differential diagnosis, rarity of the disease, cyclicity involving high spontaneous remissions, management problems affecting the design, and lack of rating devices. Methodology for early trials, controlled studies, and prophylactic studies is discussed. There was no published controlled studies where a test drug has been compared for efficacy against a known major tranquilizer. Also, controlled studies assessing prophylaxis in mania have been attempted. Considerable work is needed in perfecting design and providing a methodology for standardized assessment of the mania and for followup during prophylaxis. 33 references.

095945 Schuckit, Marc; Robins, Eli; Feighner, John. Dept. of Psychiatry, Washington University School of Medicine, 4940 Audubon Ave., St. Louis, Missouri 63110 Tricyclic antidepressants and monoamine oxidase inhibitors. *Archives of General Psychiatry*. 24(6):509-514, 1971.

A treatment for depression is reexamined which employs thymoleptic drugs. The combination of a tricyclic and a monoamine oxidase inhibitor (MAOI) has been reported effective in the treatment of depression but is avoided in this country due to concern over adverse reactions. A review

of the case reports on which this concern with morbidity is based reveals no convincing evidence that the antidepressant combination taken in therapeutic doses was responsible for the illness reported. An informal review of 350 outpatients, a record examination of 50 inpatients, and a drug trial with 10 current patients has shown no drug related morbidity. The present evidence does not indicate the combined drug regimen unsafe. A suggestion is made for controlled clinical trials of MAOI-tricyclic antidepressant therapy to evaluate better its clinical effectiveness. 62 references. (journal abstract modified)

096310 Marra, Mattia. Ospedale Psichiatrico S. Maria, Foggia, Italy /Results of depression treatment with nortriptyline: critical clinical contribution./ Risultati del trattamento con nortriptilina in depressi (contributo critico clinico). *Rassegna di Studi Psichiatrici (Siena, Italy)*. 60(2):173-183, 1971.

A psychopharmacologic study using a derivative of amitriptyline (nortriptyline) was conducted with 26 depressive patients. Favorable results were obtained in 65.38 percent of the cases. The therapeutic action and effect of nortriptyline are similar to those of the tricyclic compounds (imipramine and amitriptyline). Compared with these the nortriptyline would have the advantage of less latency, less toxicity or no toxicity at all, and an absence of accumulation. 12 references.

097458 Small, Joyce G.; Small, Iver F.; Perez, Hello C. Larue D. Carter Memorial Hospital, Indianapolis, Indiana EEG, evoked potential, and contingent negative variations with lithium in manic depressive disease. *Biological Psychiatry*. 3(1):47-58, 1971.

Electroencephalograms (EEGs), evoked responses, and direct current (d-c) potentials were recorded longitudinally in 41 patients with manic-depressive disease. Neurophysiological data were obtained during phases of mania, depression, and remission as well as when patients were drug free or on lithium. The scalp EEG recordings revealed significant diagnostic associations. Fifty percent of the subjects demonstrated so called small sharp spike patterns during sleep as compared with 8% of unselected adult patients. Only minor variations in the visual and auditory evoked responses appeared in association with mood and with lithium. The latter were more prominent when clinical change accompanied lithium intake. Data from the

d-c recordings revealed significant correlations with diagnosis and with lithium. Manic-depressive patients differed from normal controls in having practically no Contingent Negative Variation (CNV) responses with little differentiation of d-c activity under resting versus warning imperative stimulus contingencies. These characteristics were stable over time without change with variations in clinical status, or in relation to treatment with phenothiazines or tricyclic antidepressants. However d-c amplitudes became distinctly more negative following treatment with lithium carbonate. Increased negativity appeared with visual, auditory, or combined stimulus modalities, with single or paired stimuli, and with and without motor responses. Moreover, negative amplitudes persisted after responding unlike usual CNV configurations. These d-c changes with lithium did not appear to be related to clinical status, response to lithium, or other factors. 21 references. (Journal abstract)

097549 Muniz, Carlos E; Ogburn, Benjamin R.; Campbell, Donald R. Department of Psychiatry, University of Florida College of Medicine, Gainesville, Florida 32601 Lithium as a therapeutic agent in the treatment of manic depressive illness. *Southern Medical Journal*. 64(2):177-179, 1971.

A brief review is presented of lithium as a therapeutic agent in the treatment of manic-depressive illness. It seems that lithium is a very effective drug in the control of certain episodes of mania, having the advantage of not producing excessive drowsiness or interfering with intellectual functions of the patient. Also, it seems that lithium probably has a prophylactic effect with respect to future episodes of mania, as long as the patient keeps taking it on a regular basis. However, the situation is not clear in regard to its prophylactic effectiveness in depression, and it does not seem to be effective in the therapy of depression. The drug is toxic, but can be used safely by titrating the blood level of lithium once a month on an out-patient basis, once the maintenance dose has been stabilized. The mechanism of action of the drug is not well known at present and further studies in this area would probably help to clarify the biochemistry of the affective disorders. 10 references. (Author abstract modified)

098230 Kulenkampff, C. Psychiatrische Universitätsklinik, Bergische Landstrasse 2, 4 Düsseldorf, Germany /Acute psychotic states./ Akute

psychotische Zustände. *Medizinische Welt (Stuttgart)*. 22(19):802-804, 1971.

A general review of the variety of acute psychotic states, indicated drug therapy, complications and cautions is presented with focus on neuroleptic agents. Importance of recognizing adumbrative symptoms of upcoming psychotic states is emphasized so that exacerbation can be avoided with administration of neuroleptic agents. Difficulty of administering injections during psychotic states is noted. Use of force and overpowering of the patient must occur in the presence of the responsible physician. A useful sedative has been found in neurocil which is often followed by iv injection of haloperidol. The use of scophedal is recommended only in emergencies (can be administered through clothing) with the strict observance of clear instructions to the admitting hospital physician. In some instances valium may be indicated, as a relaxant but also as an antideliriant. Acute delirium tremens has been treated successfully with distaneurin, but since it potentiates and modifies alcohol effect the patient must be sober before the drug can be given. Caution applies to all acute, exogenous, senile confusion states which may call for neuroleptic treatments. Constant observation of the patient is essential. When distaneurin is not effective, valium injections may be indicated, and only as a last resort (also for the aged) might haloperidol be used, injected iv, slowly and carefully. Admission of acutely psychotic persons should always be in the presence of and care of the physician. Transportation of such persons by police vans, for example, is barbaric. Uniforms tend to exacerbate the already explosive situation. The rougher the psychiatric and other services used to deal with aggressive behavior, the greater the likelihood of causing aggression. Experience, skill and quick decision making are prerequisites for therapeutic results which combine psychiatry with the right drug at the right moment. 8 references.

098389 Bond, Douglas D.; Braceland, Francis J.; Freedman, Daniel X.; Friedhoff, Arnold J.; Kolb, Lawrence C.; Lourie, Reginald S. School of Medicine, Case Western Reserve University, Cleveland, Ohio Pharmacotherapy. In: Bond, D., *The year book of psychiatry and applied mental health*. Chicago, Year Book Medical Publishers, 1971. 415 p. (p. 250-277).

A selection of articles on pharmacotherapy, culled from recent literature, is presented with

some editorial comment. Specific topics dealt with include: phenothiazine therapy, handwriting changes and response to drugs, treatment of schizophrenia and mania, the use of lithium carbonate, various treatments for depression, neuropsychopharmacology and the affective disorders, treatment of long-term heroin users, pituitary adrenal influences on fear response, haloperidol in Gilles de la Tourette's syndrome, presenile dementia, treatment of geriatric patients, objectification of psychopharmacologic drugs, and extrinsic factors influencing responses to psychotherapeutic drugs. 35 references

098751 Vale, Salvador; Espejel, M. A; Dominguez, J. C. Facultad de Medicina, Universidad Nacional Autonoma de Mexico, Mexico City, Mexico Amantadine in depression. *Lancet (London)*. 2(7721):437, 1971.

A controlled trial of amantadine on 40 patients with chronic depressive syndrome (each showed a rating of over 53 points on Zung's self-rating depression scale) showed the drug less effective than amitriptyline. Findings need further evaluation, since amantadine does have anti-depressant properties and is beneficial to extrapyramidal disease.

099345 Himwich, Harold E. Thudichum Psychiatric Research Laboratory, Galesburg State Research Hospital, Galesburg, Illinois 61401 Indoleamines and the depressions. In: Himwich, H., *Biochemistry, schizophrenia, and affective illnesses*. Baltimore, Williams and Wilkins, 1971. 500 p. (p. 230-282).

Differences in clinical diagnostic criteria make difficult the evaluation of the clinical significance of excretion patterns and other biochemical data among the various literature reports, both experimental and theoretical. Nevertheless, certain patterns seem to predominate: in depressive states, urinary excretions of tryptamine and 5-hydroxyindoleacetic acid are decreased, 5-hydroxyindoleacetic acid concentration of the cerebrospinal fluid is decreased, and serotonin formation is decreased throughout the body. The effects of antidepressant drugs like monamine oxidase inhibitors and tricyclic antidepressants, and possible biochemical explanations for their actions, are reviewed. Drugs which elevate brain serotonin or monamines can be helpful in some depressions. 205 references.

099440 MacKay, D.N. Muckamore Abbey Hospital, Co Antrim, Eire Evaluation of tranquilisers with subnormal patients: 2. pericyazine and chlorpromazine. *Nursing Mirror and Midwives Journal (London)*. 133(6):32-33, 1971.

A double-blind cross over clinical trial of chlorpromazine (C) and pericyazine (P) is described. A 12 week study was made on 43 severely disturbed ward patients. At the end of the period, the procedure was switched; those on C would be switched to P and vice versa. Daily behavior ratings were made by nurses. Half of each group received a placebo. Results indicated that disturbed patients were not effected by C, that P does not appear to be a good replacement, and a placebo effect appeared in the C control group. 2 references.

100047 Vowles, D.M.; Prewitt, E. Department of Psychology, University of Edinburgh, Scotland Stimulus and response specificity in the habituation of anti-predator behaviour in the ring dove (*Streptopelia risoria*). *Animal Behaviour (London)*. 19(1):80-86, 1971.

An experiment is described in which fearful behavior shown by ring doves to model predators was habituated. The doves were then injected with progesterone or prolactin. This induced defensive or aggressive motivation. When the original model was presented very few aggressive, defensive or fearful responses were shown. However, when a novel stimulus was used all 3 types of responses occurred at a normal level. This demonstrates that when fearful behavior has been habituated to a particular stimulus the effect generalizes to other forms of agonistic response, but not to other stimuli. 13 references. (Author abstract)

100236 Fieve, Ronald R. 722 West 68th Street, New York, N.Y. 10032 Lithium for manic depressive disorders: challenge to electroshock therapy? *New York State Journal of Medicine*. 71(18):2219-2222, 1971.

Historical points of interest leading up to lithium's current role in modern psychiatry are noted. Some of lithium's accepted uses are outlined. The questions 'what is lithium's role in manic creativity?' and 'will lithium replace electroshock therapy for future treatment of manic depression?' are considered. The lithium clinic recently established by the State of New York to further the research and treatment of patients and the training of New

York State psychiatrists so that similar programs can be set upon throughout the state hospital system and the local community aftercare clinics is described. 2 references.

**100314 Demers, Robert G.** Department of Psychiatry, Baltimore City Hospital, Baltimore, Md. The influence of prophylactic lithium treatment on the marital adjustment of manic-depressives and their spouses. *Comprehensive Psychiatry*. 12(4):348-353, 1971.

Fourteen manic-depressives, successfully treated with prophylactic lithium, and their spouses were administered a Marital Partner Attribute Test (MPAT) and completed a statement on the overall condition of their marriages to assess the efficacy of lithium in altering certain aspects of their marital adjustment. Thirteen of 14 manic-depressives were rated as possessing fewer undesirable attributes. These attributes were largely manic-depressive symptoms. When the mean prelithium MPAT score was compared to the during mean MPAT score the reduction of undesirable attributes reached a significance level of 0.01. Although 9 manic-depressives showed an increase in the frequency of desirable attributes during lithium, the average change was small and, therefore, not significant. The spouses of the manic-depressives reduced their frequency of undesirable attributes and increased the frequency of desirable attributes although not to a significant degree. MPAT score change appeared not directly related to mean oral dose, mean serum lithium or length of treatment. 10 references. (Author abstract modified)

**100317 Noyes, Russell, Jr.; Ringdahl, Irving C.; Andreasen, N.J.C.** University of Iowa, Department of Psychiatry, State Psychopathic Hospital, Iowa City, Iowa Effect of lithium citrate on adrenocortical activity in manic-depressive illness. *Comprehensive Psychiatry*. 12(4):337-347, 1971.

Twelve manic-depressive patients were treated with lithium citrate on a research ward where fluid and electrolyte intake was controlled. Four of the 5 depressed patients became symptom free as did all 7 manic patients. The substitution of placebo during the symptom free period was associated within 24-48 hours with recurrence of depressive or manic symptomatology in 3 manic and 2 depressed patients. In addition to its well established effect upon mania, lithium, in these cases, had a specific therapeutic effect upon

depression as well. The introduction of lithium was associated with a temporary increase in 17-hydroxycorticosteroid (17-OHCS) excretion along with an increased excretion of water, sodium, and potassium. These effects were not sustained, in some instances, beyond 24 hours. The substitution of placebo for lithium during the course of treatment resulted in changes in excretion which were in the opposite direction. The direction of the changes in steroid excretion suggests that lithium's effect upon electrolyte metabolism is not secondary to its action upon the adrenal cortex. Manic patients showed a tendency to retain lithium while symptomatic and to excrete amounts in excess of that administered after becoming symptom free. This retention of lithium tended to differentiate the manic from the depressed patients. Manic patients treated with lithium showed a higher rate of 17-OHCS excretion after they had become symptom free than before administration of lithium. This increase may have been secondary to clinical improvement or to retention of lithium. The depressed patients did not show this trend towards increased steroid excretion. 26 references. (Author abstract modified)

**100452 Ray, I.** Psychiatric Centre, Union Hospital, Yorkton, Sask., Canada Psychiatric Centre, Union Hospital, Yorkton, Sask., Canada The hazards of use of monoamine oxidase inhibitors in disturbed adolescents. *Canadian Medical Association Journal (Toronto)*. 105(1):21, 1971.

A letter to the editor criticizes a previous article for reinforcing the fear of using monoamine oxidase inhibitors by giving a detailed description of a hypertensive crisis and its consequences in an adolescent girl. A different experience is recorded. These inhibitors were used in affective illnesses for 3.5 years, on aged and young patients. Side effects and reactions to certain foods were explained in initial and subsequent interviews. No side effects were observed from combination of these inhibitors with other tricyclic drugs. When the patient is cooperative and intelligent there is no difficulty in their continuous use. In cases of depression, the danger of suicide is greater than the side effects of the monoamine oxidase inhibitors. With subjective release from the misery of depression, the patients accept the food restrictions. No difficulty was experienced in keeping them on maintenance doses to prevent relapses.

101311 Svestka, J.; Nahenek, K.; Rodova, A. Jihlavská 102, Brno-Bohunice, Czechoslovakia /Prophylactic administration of lithium carbonate in affective psychoses./ Profylaktické podávání uhličitanu lithného u afektivních psychóz. *Ceskoslovenská Psychiatrie (Praha)*. 67(2):79-86, 1971.

The prophylactic effect of lithium carbonate was studied for an average of 646 days in 59 patients with manic depressive or schizoaffective psychosis or periodic or involutional depression and was compared with equally long previous periods of the disorder. Statistically significant decreases in frequency and duration of phases and in frequency and length of admissions were noted after lithium therapy. A positive prophylactic effect, the disappearance of further phases or a decrease in frequency of phases in affective psychoses after lithium therapy, was achieved in 52.2% of all treated patients. There was a relative percentage increase of syndromes in manic and mixed forms, while depressive forms decreased. In patients resistant to lithium, even further daily increases in dosage did not have any positive effect on the average. No significant difference was found between the groups of lithium resistant and lithium sensitive patients in age, period of lithium administration, average lithium level in the blood serum, actual average duration of affective psychosis, number of phases before the onset of lithium therapy, average duration of phases preceding therapy, or number of hospital admissions and average length of admissions before therapy. No difference was found in prophylactic responses to lithium either in bipolar and monopolar or typical and atypical forms. 27 references. (Author abstract modified)

101622 Winston, Frank. 313 Price Place, Madison, Wisconsin 53705 Combined antidepressant therapy. *British Journal of Psychiatry (London)*. 118(544):301-304, 1971.

The benefits of the use of combined antidepressants are weighed against the potential hazards involved and an attempt is made to show that, providing prudence and caution are employed, monoamine inhibitors and tricyclic antidepressants can be used together without dire results and with considerable benefit to many patients with chronic resistant depression. Drugs tested included: amitriptyline (Tryptizol, Elavil), imipramine (Tofranil), tranlycypromine (Parnate), isocarboxazid (Marplan), trifluoperazine

(Stelazine), and chlorpromazine (Largactil, Thorazine). 14 references. (Author abstract modified)

101888 Persson, Torngny; Wallinder, Jan. University of Göteborg, Psychiatric Research Centre, St.Jorgen's Hospital, S- 422 03 Hisings Backa, Sweden L-DOPA in the treatment of depressive symptoms. *British Journal of Psychiatry (London)*. 119(550):277-278, 1971.

Five cases are presented of psychic disorders in which depression was a prominent symptom and which were treated with L-DOPA after a wide range of conventional treatments over many years had proved of little use. All 5 recovered or improved markedly on the L-DOPA treatment, although the drug began losing its effect after a period of 1 to 5 months in 4 of the cases. The vanishing effect could not be influenced by increasing the dosage. It is felt that the short lived effect observed indicates that the drug is usually of no definite use in depression, at least in the treatment of chronic depressive states. Further observations are called for as to the effect of L-DOPA on psychic disorders. 3 references.

101896 Jain, V.K. Beorn Clinic, Barnsley District General Hospital, Barnsley, Yorkshire, England Affective disturbance in hypothyroidism. *British Journal of Psychiatry (London)*. 119(550):279-280, 1971.

Thirty consecutive patients diagnosed as hypothyroid were examined before and after treatment with thyroxine. There was no significant correlation between the severity of affective disturbance and the disease process. Most improved subjectively after treatment, though the improvement was only marginal on objective psychiatric assessment. A higher incidence of affective disturbance was found in the first degree relatives of depressed patients, though this finding was not statistically significant. 6 references. (Author abstract)

101897 Johnson, Gordon; Gershon, Samuel; Burdock, Eugene I.; Floyd, Arthur; Hekimian, Leon. Neuropsychopharmacology Research Unit, Psychiatry Dept, New York University Medical Center, 550 First Ave., New York, N.Y. Comparative effects of lithium and chlorpromazine in the treatment of acute manic states. *British Journal of Psychiatry (London)*. 119(550):267-276, 1971.

A controlled double-blind evaluation of lithium and chlorpromazine in acute manic states is reported. Analysis of the results shows that lithium produced a highly significant improvement in the manic depressive (manic phase) patients but no significant change in the schizoaffective (excited) patients. Chlorpromazine produced significant improvement in both diagnostic groups. An analysis of the differences of the 2 treatments showed that lithium produced the greater change in the manic depressives, whereas chlorpromazine produced more change than lithium in the schizoaffective group. These differences, however, did not reach statistical significance. The importance of diagnosis for treatment outcome is discussed. Lithium is an affective and specific agent for the control of the manic phase of manic depressive illness. 16 references. (Author abstract)

101967 Dostal, T.; Angst, J.; Dittich, A.; Grof, P. Valentinska 10, Prague 1, Czechoslovakia /Prophylactic effects of lithium salts in periodic affective psychoses./ Profylakticke ucinky lithiovych soli u periodickych afektivnich psychoz. *Ceskoslovenska Psychiatrie (Praha)*. 67(3):151-156, 1971.

Lithium has a statistically significant therapeutic effect in periodic affective psychoses. Prophylactic lithium was administered for a course of 3 to 24 months to 117 patients with relapses of periodic depressive and circular forms of manic-depressive psychosis and schizoaffective psychoses. The influence of lithium was evaluated from the standpoint of duration of the disease cycle, frequency of phases, and number of hospitalizations. Comparisons were made among individuals and among groups. Results showed a statistically more significant prolongation of the cycle, a decrease in frequency of phases, and a drop in the number of hospitalizations required. 59 references.

102105 Polatin, Phillip; Fieve, Ronald R. 722 W.168th St., New York, N.Y.10032 Patient rejection of lithium carbonate prophylaxis. *Journal of the American Medical Association*. 218(6):864-866, 1971.

In the milder forms of manic-depressive disorders, many patients refuse to continue with lithium carbonate as a prophylactic agent for several reasons. These are: 1) creative patients feel that the lithium carbonate acts as a brake, preventing productivity and interfering with the earning of a

livelihood; 2) the hypomanic phase is so enjoyable that rather than eliminate or limit it, they prefer to take their chances on the possibility that a depression will not recur; 3) denial of the chronicity of the illness lies behind denial of the need to ingest lithium carbonate indefinitely. Three case histories are included. (Author abstract modified)

102592 Platman, Stanley R. South Beach Psychiatric Center, 600 Albany Avenue, Brooklyn, New York 11203 Lithium and rubidium: a role in the affective disorders. *Diseases of the Nervous System*. 32(9):604-606, 1971.

The role of lithium and rubidium in treatment of the affective disorders is discussed. A brief state of the art analysis is presented along with a review of previous experimentation with the cations. Studies with monkeys and rats of the chronic effects of rubidium chloride are reported. It is suggested that rubidium might have the potential to increase the general level of alertness, activity and affect of humans, as contrasted with lithium, which tends to slow the electroencephalogram and reduce hyperactive behavior and excessive affects. 8 references.

102593 Ayd, Frank J., Jr. 912 West Lake Avenue, Baltimore, Maryland 21210 Long-term administration of doxepin (Sinequan): clinical and laboratory survey of 40 patients. *Diseases of the Nervous System*. 32(9):617-622, 1971.

Doxepin was given to 40 chronically depressed patients from 18 to 41 months to maintain the symptomatic improvement this drug produced. These patients took from 33,750mg to 253,000mg. A comparison of their pretreatment and survey urinalysis, hematological, renal and liver function studies did not reveal any statistically significant changes. The drug was well tolerated by those patients with cardiovascular and other disorders they had beside melancholia. There were no adverse interactions between doxepin and alcohol, hypnotics, neuroleptics, antihypertensive drugs, oral hypoglycemic agents and anticonvulsants. Side effects (none serious) occurred with initial high dosage, but all, except slight dryness of the mouth and a tendency toward constipation, disappeared with the establishment of the maintenance dose. It is concluded that long-term doxepin therapy can be effective and safe for those chronic depressives who require indefinite antidepressant treatment. Its chief value, besides its

efficacy, lies in the small degree of functional disability it causes. It permits ambulatory treatment for many patients over prolonged periods safely. 4 references. (Author abstract)

102798 Gillespie, Francis A. Hospital for Mental and Nervous Diseases, St. John's, Newfoundland. The use of intravenous diazepam in stupor. *Canadian Psychiatric Association Journal (Ottawa)*. 16(5):445-446, 1971.

A preliminary report on 5 patients indicates the possible therapeutic value of diazepam in stupor. These 5 patients are considered to be fairly classical examples of stupor. Three had underlying severe depression; 1 was probably a case of hysterical stupor; the diagnosis of 1 case is uncertain, but it probably had an underlying depression as the key illness. The rapid and beneficial effect of diazepam i.v. would appear to merit further investigation and clinical trial. 2 references. (Author abstract modified)

103320 Skou, Mogens. Psychopharmacology group, University psychiatric clinic, Orhus-Riskov, Denmark /Lithium prophylaxis in manic-depressive psychosis and in recurrent endogenous depressions./ *Litvea profilaktika pri maniakalno-depresivnata psikhoza i rekurentnite endogeni depresii. Nevrologiya, Psikhatriya i Nevrokhirurgiya (Sofia)*. 10(3):217-224, 1971.

The evidence of a prophylactic action of lithium in recurrent affective disorders has been a subject of controversy. In a study which used the double-blind discontinuation technique with 50 manic-depressives and 34 patients with recurrent depressions, matched pairs were allocated randomly to either lithium or placebo, and the number of relapses was recorded. Sequential analysis was applied in order to stop the trial as soon as a satisfactory level of significance of the differences was reached. In both groups, more than half of the placebo patients relapsed, while none of the lithium partners did. The comparison of the relapse rates after double-blind and open discontinuation of lithium rules out any significant role played by observer bias or psychological factors in producing the prophylactic effects of the drug. Furthermore, the pre-lithium relapse rate and the rate of recurrences upon discontinuation of lithium proved to be almost identical in patients who had been maintained on prophylactic lithium. This and other relevant observations make it impossible to explain lithium results solely on the basis of

a spontaneous decrease of episode frequency due to the particular selection process. 9 references. (Journal abstract)

103627 Spring, Gottfried K. Department of Psychiatry, Case Western Reserve University, Cleveland, Ohio 44106 Some current thoughts on lithium carbonate in manic-depressive illness based on a double-blind comparison with chlorpromazine. *Psychosomatics*. 12(5):336-340, 1971.

The data gathered in a double-blind study comparing lithium and chlorpromazine is reviewed together with general experiences with lithium. The conclusions are that lithium is not significantly superior to chlorpromazine in acute mania and that in severe manias chlorpromazine or possibly a combination of chlorpromazine and lithium is more effective. For prophylaxis the combination of lithium plus tricyclic antidepressants is suggested in manic-depressive illness circular type. The lithium induced delirium is discussed as a specific side effect in severe manias. A case of gastrointestinal flu leading to severe lithium intoxication is also described in an attempt to alert physicians to this possible occurrence. 13 references. (Author abstract modified)

104435 Benesova, O.; Nahunek, K. Inst. of Pharmacology, Medical Faculty of Hygiene, Charles Univ., Praha 10, Srobarova 50, Czechoslovakia. Correlation between the experimental data from animal studies and therapeutical effects of antidepressant drugs. *Psychopharmacologia (Berlin)*. 20(4):337-347, 1971.

Correlation was made between the experimental data obtained from different pharmacological tests in animals, and clinical efficiency of a series of antidepressants in 665 treatments of endogenous depression. The differences in therapeutic activity with regard to the symptomatology were expressed by using an index of antidepressive action (IAA) which was equal to the % of remissions in patients with retarded depression divided by the % of remissions in patients with anxious, agitated and atypical depressions. Intensity of adrenomimetic effect estimated by inhibition of noradrenalin uptake, by antireserpine and antitetraabenazine tests in rats revealed a high correlation with therapeutic efficacy in retarded forms of depression. Intensity of anticholinergic action evaluated by antiphsostigmine, antinicotine and antitremorine tests in animals, correlated with clinical efficacy in anxious and

agitated depressions. 64 references. (Author abstract modified)

104638 Gosling, R.H.; Kerry, R.J.; Owen, G. Group Pathology Laboratory, Northern General Hospital, Sheffield S5 7AV, England Vitamin E ineffective in recurrent psychosis. *Lancet (London)*. 2(7733):1094, 1971.

The treatment of 2 patients is reported which indicates that large doses of vitamin E do not prevent various types of recurrent psychotic illness or the associated increased creatine phosphokinase activity. The findings suggest that vitamin E has no therapeutic use in this area. 5 references.

104830 Lipsedge, M.S.; Rees, W.Linford; Pike, D.J. Department of Psychological Medicine, St.Bartholomew's Hospital, London, E.C.1, England A double-blind comparison of dothiepin and amitriptyline for the treatment of depression with anxiety. *Psychopharmacologia (Berlin)*. 19(2):153-162, 1971.

Fifty outpatients suffering from a primary depressive illness with concomitant anxiety took part in a double-blind controlled comparison of antidepressants, dothiepin and amitriptyline. The subjects' psychiatric state was assessed by both self-rating and clinician rated scales. Patients were followed up for a period of about 3 months. The results of the trial showed that dothiepin was superior to amitriptyline at the 5% significance level in terms of its antidepressant activity. Dothiepin was better tolerated in relation to its side effects than amitriptyline. For relief of anxiety symptoms both drugs appeared equally effective. 21 references. (Author abstract modified)

105828 Svestka, J.; Nahunek, K.; Hadlik, J.; Rodova, A. Psychiatric Clinic, Jihlavská 102, Brno-Bohunice, Czechoslovakia Clinical experience with fluspirilene in psychoses. *Activitas Nervosa Superior (Praha)*. 13(3):173-174, 1971.

Fluspirilene, a neuroleptic, was administered to 41 psychotic patients in 2 parts: it was first given to psychotics with florid symptomatology and was then used as a maintenance drug in remissions in order to prevent relapse. Fluspirilene showed satisfactory antipsychotic properties in acute as well as chronic psychoses. Its advantageous prolonged action facilitates treatment of less cooperative patients as well and also makes therapeutic maintenance easier for the nursing staff. 4 references.

105830 Polackova, J.; Bily, J.; Hanus, H. Psychiatrická klinika LF KU, Hradec Kralove, Czechoslovakia /Results of lithium treatment of manic-depressive psychosis in comparison with the control group./ Vysledky lithlove lechy maniomelancholie ve srovnani s kontrolni skupinou. *Activitas Nervosa Superior (Praha)*. 13(3):171, 1971.

Lithium appears to have a more marked effect on manic than depressive phases of the manic-depressive psychosis. The effects of lithium were studied in 15 patients who received it as prophylactic treatment. In comparison with the control group, also consisting of 15 patients with the illness, no statistically significant decrease in the number of depressive phases was noted in the group treated with lithium, but there was a significant decrease in the number of manic phases in the lithium patients following the onset of therapy. The obtained results justify lithium treatment for manic-depressive psychosis.

105831 Dostal, T. Psychiatric Research Institute, Prague 8 - Bohunice, Czechoslovakia Modification of depressive episodes during prophylactic administration of lithium salts. *Activitas Nervosa Superior (Praha)*. 13(3):170-171, 1971.

Seventeen out of a total of 59 patients given prophylactic lithium treatment did not have recurrences of depressive and manic attacks, but certain neurotic symptoms appeared, including obsessive manifestations, phobias, anxious states, somatic tension, difficulties in concentration, and irritability, and some somatovegetative symptomatology was noted as well. The clinical pictures of individual syndromes differed markedly from original pictures of mania or depression. Despite the relatively small sample, the evidence suggests that the symptoms manifested by these patients represent a clinically and qualitatively significant modification of the original depressive and manic attacks and that even these modified attacks respond positively to lithium treatment. Further research should be oriented to the analysis and statistic evaluation of the clinical course of the disease and to the elucidation of relationships among the personality of the patient, original psychotic symptom complex, and response to lithium therapy. 3 references.

105832 Nahunek, K.; Svestka, J.; Rodova, A. Psychiatric Clinic, Jihlavská 102, Brno-Bohunice, Czechoslovakia To the antidepressive properties of lithium and its place in the group of antidepressive

drugs. *Activitas Nervosa Superior (Praha)*. 13(3):169-170, 1971.

While the therapeutic efficacy of lithium in manic phases and its prophylactic effect in both phases of the manic-depressive psychosis are generally acknowledged, its actual antidepressive effect has not been defined. Ninety eight patients hospitalized with depressive phases of endogenous depression, manic-depressive psychosis, and involutional psychosis received lithium in dosages ranging from 702mg to 1330mg daily, supplemented by additional drugs according to the particular needs of the patient. Determination of the lithium serum level and other routine biochemical tests were administered in the course of treatment. Favorable results were obtained in 56.8% with inhibited forms, 55.6% with anxious and agitated forms, and 48.2% with atypical forms of depression. Lithium was found to occupy a middle position among the antidepressive drugs used. Its antidepressive effect was shown to approach that of trimeprimine, amitriptyline, and convulsive methods. 6 references.

105833 no author. author address not given Multihospital controlled comparison of the therapeutic effects of four antidepressants. *Activitas Nervosa Superior (Praha)*. 13(3):166-167, 1971.

Four antidepressants, imipramine, amitriptyline, propazepine, and prothiadene, were compared in a multiclinical controlled trial with 37 men and 63 women. The patients first received placebo for at least 5 days under single blind conditions and then received the compared drugs for 4 weeks under double-blind conditions with flexible dosages, depending upon patient reaction. Twenty six patients were treated with amitriptyline, 20 with prothiadene, 24 with imipramine, and 27 with propazepine. The groups were similar in all important characteristics. No difference in the therapeutic action of the 4 drugs was proven, but previous experience indicates that prothiadene is probably the most suitable drug for the treatment of psychotic depressions. 10 references.

105836 Vencovsky, E.; Baudis, P.; Peterova, E.; Sedivec, V.; Janovsky, F.; Dvorakova, M.; Paceltova, L.; Zizka, V.; Plzak, M.; Faltus, F.; Chodura, V. author address not given Therapeutic experience with chlorimipramine injections. *Activitas Nervosa Superior (Praha)*. 13(3):161-162, 1971.

The antidepressive action of chlorimipramine has been found to be one of the most effective

actions exerted by antidepressants. The compound was administered intramuscularly to 78 patients in a daily dosage of 75-175mg, by infusion to 33 patients in a daily dose of 50-125mg, and by intravenous noninfusion application to 15 patients in amounts below 50mg daily. The sample included patients with depressive syndromes of various etiology and atypical periodic psychoses. Improvement occurred in half of the positively influenced cases within the first week of treatment. Side effects ensuing from chlorimipramine administration differed neither quantitatively nor qualitatively from side effects encountered with other tricyclic antidepressants. Parenteral application, especially the infusion technique, was shown to accelerate the onset of the therapeutic effect. The compound was the most effective in endogenous depressive syndromes.

105913 Vinarova, E.; Vinar, O. Institute of Psychiatry, Prague 8-Bohnice, Czechoslovakia The effects of antidepressant therapy. A follow-up study. *Activitas Nervosa Superior (Praha)*. 13(3):162-163, 1971.

The followup investigation of depressive patients is an important method for evaluating the effects of antidepressant therapy. Questionnaires were sent to 173 patients who had been hospitalized previously in a psychiatric institution. Of the 107 patients who responded, 45% were feeling well, 36% were depressed, and 19% had neurotic symptoms. Clinical diagnoses of the whole sample showed 52% with psychotic depression, 14% with involutional melancholia, and 8% with the depressive phase of manic-depressive psychosis. At the time when the patients received the questionnaire, only 20.6% were without any medical treatment. Only one statistically significant correlation was found between the type of treatment and the condition at followup: the patients who had been treated with antidepressants replied more often that they were feeling well than patients who had received electroconvulsive therapy. 4 references.

105925 Guensberger, E.; Molcan, J. Psychiatric Clinic, Mickiewiczova 13, Bratislava, Czechoslovakia Relationship between the therapeutic effect and side effects in the treatment with antidepressive drugs. *Activitas Nervosa Superior (Praha)*. 13(3):180, 1971.

Results of a study of the relationship between dynamics of development of the therapeutic influence and side effects of amitriptylin indicate

that therapeutic effects with a later onset appear to be more intensive than effects with a short duration, but even in these cases the results show a tendency towards deepening. In 17 out of 18 depressive patients treated with the drug, side effects disappeared, usually 12 days after the beginning of the therapeutic action. Of the 16 cases who responded within the 46 days of observation, 12 developed substantial side effects.

105928 Svestka, J.; Nahunek, K.; Rodova, A. Psychiatric Clinic, Jihlavská 102, Brno-Bohunice, Czechoslovakia Clinical experience with prophylactic lithium therapy of manic-depressive psychoses. *Activitas Nervosa Superior (Praha)*. 13(3):167-169, 1971.

Preventive administration of lithium carbonate was initiated in the middle of 1967 to 95 patients. In the case of only 59, however, length of average intermission in the 3 years prior to the onset of lithium therapy was shorter than the period of lithium administration, the patient had had at least 2 phases of manic-depressive or schizoaffective psychosis, and lithium was administered for a minimum of 1 year. The majority of subjects began as outpatients. The patients and/or their relatives were informed of the therapeutic goal and side effects, and the patients were subjected to a basic clinical and laboratory examination before treatment was initiated. A comparison of the number and duration of phases and the number and duration of hospitalizations before and after prophylactic lithium therapy showed a statistically significant difference. The higher incidence of miniphasic and the considerably lower frequency of hospitalization suggest that lithium reduces the intensity of the illness. 4 references.

106053 Veterans Administration; Prien, Robert F.; Caffey, Eugene M., Jr.; Klett, C. James. Central Neuropsychiatric Research Laboratory, Perry Point, Maryland 21902 Lithium carbonate: a survey of the history and current status of lithium in treating mood disorders. (Unpublished paper). Veterans Administration, Perry Point, Md., 1971. 19 p.

The use of lithium carbonate in the treatment of manic-depressive psychoses and other disorders is discussed and research findings reviewed. The therapeutic effectiveness of the product in cases of acute mania is examined and compared with other techniques, as well as the conflicting evidence on the value of lithium in acute depres-

sion. In addition, its prophylactic effect against manic or depressive relapse is treated, along with possible use of lithium therapy in schizophrenia. Dosage and control problems are also discussed, emphasizing the importance of administration under careful laboratory and clinical supervision. Finally the toxic nature of the compound is examined, emphasizing the 2 types of undesirable reactions: (1) side effects, which are usually mild and may occur at low dosage; and (2) lithium intoxication, which usually occurs at levels above 2.0mEq/l 80 references.

108696 Overall, John E.; Hollister, Leo E. Department of Neurology and Psychiatry, University of Texas Medical Branch, Galveston, Texas 77550 Indications for tricyclic antidepressant drugs. *Diseases of the Nervous System*. 32(11):759-764, 1971.

Tricyclic antidepressant drugs are indicated for the relief of depressive syndromes of moderate severity of the type commonly diagnosed as endogenous, psychotic, or retarded. At the same time, a specific disclaimer might be in order to the effect that these drugs have no special utility for mild depressions which might ordinarily be diagnosed as reactive (an identifiable precipitating cause) or neurotic (with symptoms of anxiety and tension, but without signs of mental disorganization). If the inclusion of such patients has no place in the evaluation of antidepressant drugs, then these drugs have no place in their treatment. 25 references.

109105 Coppen, A.; Noguera, R.; Bailey, J.; Burns, B.H.; Swani, M.S.; Hare, E.H.; Gardner, R.; Maggs, R. Medical Research Council Neuropsychiatry Unit, Carshalton, England Prophylactic lithium in affective disorders. *Lancet (London)*. 2(7719):275-279, 1971.

The prophylactic effect of lithium was studied in a group of 65 patients with recurrent affective disorders in 4 centers. Patients were randomly allocated to lithium or identical looking placebo tablets for periods of up to 112 weeks. In addition, patients received any further medication or treatment which the psychiatrist in charge of the case thought was necessary. Patients receiving lithium had very significantly less affective illness than patients receiving placebo tablets, whether this was measured by time spent as an inpatient or by the duration of outpatient episodes. The amount of antidepressant or of antimanic medication prescribed was also significantly less in the

lithium group. No patient on lithium was given electroconvulsive therapy (ECT), whereas 43% of the placebo group received one or more courses of ECT. A global rating was made independently by 2 assessors who did not know whether the patient was in the lithium or in the placebo group. These assessors, the psychiatrist in charge of the case and a psychiatric social worker, showed a very high concordance in their ratings. Of patients on lithium 86% were rated as showing little or no affective disorders (global rating 1 and 2) during the trial, as compared to only 8% of the placebo group. Only 11% of the lithium group was rated as unchanged or worse than during the 2 years previous to the trial, as compared with 75% of the placebo group. Lithium seemed to be as effective in patients with unipolar recurrent depressive illness as in patients with both mania and depression. 7 references. (Author abstract)

111694 Van Praag, H.M.; Schut, T.; Dols, L.; Van Schiltgaarden, R. Psychiatric University Clinic, University Hospital, Groningen, The Netherlands Controlled trial of penfluridol in acute psychosis. *British Medical Journal (London)*. 4(5789):710-713, 1971.

A controlled study was made of penfluridol medication consisting of a single weekly oral dose of 30mg in 30 patients with acute psychoses of varying type and origin. This medication was found to be effective. No significant side effects occurred. Several long acting neuroleptics for injection are now available. The development of an oral compound of this type is an asset because of the manageability of the oral drug in the hands of family doctors and social psychiatrists. 11 references. (Author abstract)

112289 Misurec, J. Psychiatric Clinic, Jihlavská 102, Brno-Bohunice, Czechoslovakia EEG frequency analysis in the treatment with some antidepressant drugs: (imipramine, amitriptyline, dibenzepine, dimethacrine). *Activitas Nervosa Superior (Praha)*. 13(2):218-219, 1971.

Forty patients ranging in age from 20 to 75 years old were divided into 4 groups, each of which was treated with imipramine, amitriptyline, dibenzepine, and dimethacrine, respectively. A typical change during treatment with the antidepressive agents was an increase in theta and beta range. Similar electroencephalographic changes were observed following administration of imipramine, amitriptyline, and dibenzepine,

whereas dimethacrine decreased slow and fast rhythms and increased alpha 1 and alpha 2 frequencies. Patients over 60 years of age manifested a more frequent and more marked increase in the slow wave component and a lower production of the beta and alpha frequency in comparison with patients from younger age groups. 2 references.

112443 Medvecký, J.; Niskac, M.; Klimo, Z. Psychiatrická klinika lekárskej fakulty UPJS, namesti Osloboditel'ov 18, Kosice, Czechoslovakia /Further experience in the treatment of depressive states with a combination of psychotone and electroshock therapy./ Dalsie skusenosti v liecbe depresivnych stavov kombinaciou psychotonu s elektrosokmi. *Ceskoslovenska Psychiatrie (Praha)*. 67(5):308-311, 1971.

Premedication with psychotone before electroshock therapy is completely justified in patients who are resistant to thymoleptic substances. When patients treated with thymoleptics alone before electroshock therapy were compared with patients treated with a combination of psychotone and electroshock therapy, it was shown that psychotone together with electroshock significantly decreased the time factor during therapy and in the posttherapy observation period and had an evident effect on recidivism, decreased the number of electroconvulsions needed, and helped to eliminate postconvulsional deterioration of memory and intellectual capacity. 4 references. (Author abstract modified)

113750 Smulevich, A.B.; Zavidovskaya, G.I.; Igonin, A.L.; Makeyeva, V.L.; Mikhaylova, N.M.; Faktor, M.I. Institut psikiatrii AMN SSSR, Moscow /Use of lithium salts in treatment and prevention of affective psychoses./ Primeneniye soley litiya dlya lecheniya i profilaktiki affektivnykh psikhovozov. *Zhurnal nevroptologii i psikiatrii imeni S.S.Korsakova (Moskva)*. 71(12):1857-1865, 1971.

The therapeutic and prophylactic effect of lithium sulfate in patients with affective attacks in manic-depressive psychosis and schizophrenia with a periodic shift-like and sluggish course of the disease was investigated. A total of 100 patients was studied where the attacks had a relatively simple pathological structure (phases with a classical depressive and manic triade, adynamic depressions, mania with prevalent increased activity rather than an effect of elation) and attacks

with a more complicated and polymorphic psychopathological clinical pattern (anxiety and neurotic components, depressive delusions, megalomaniac ideas and fantastical - delusional or oneiroid disorders). In the process of lithium therapy, there was a reduction of the psychopathological symptomatology in each phase of the disease and a significant shortening of the phases and a reduction of the length and markedness of the phases. Some side effects and complications seen in such conditions, such as increased fatigability, dyspeptic and dysuric symptoms, tremor and Parkinsonism, were observed. The syndrome of tremor and Parkinsonism indicated lithium intoxication of the central nervous system. 44 references. (Journal abstract modified)

**114911 Kupfer, David J.** no address **Lithium and psychiatry: journal articles.** Flushing, NY, Medical Examination Publishing Co., 1971. 424 p.\$15.

A collection of 51 previously published articles relating to the clinical use and investigation of lithium carbonate in the affective disorders is presented. The articles have been culled from 16 foreign and domestic journals and reproduced. Most of the articles were published between 1968 and 1970, while the earliest was published in 1959. They are arranged into six sections with an addendum of 22 references in a separate bibliography. There are no editorial comments or discussions about any of the material. An explanatory introduction is provided. The book is recommended to physicians who use lithium regularly and to investigators using lithium as a research tool.

**118130 Jaworska, Kinga; Kojecka, Izabella; Skaryszewska-Sawicka, Jadwiga; Szmurlo, Bożena.** Klinika Psychiatryczna AM, ul.Nowowiejska 27, Warsaw, Poland /Dibenzazepine (Noveril) in the treatment of depressive states./ Dibenzazepina (Noveril) w leczeniu stanów depresyjnych. *Psychiatria Polska (Warszawa)*. 5(4):433-436, 1971.

The therapeutic action of the antidepressant drug dibenzazepine was investigated in 45 patients. The drug was administered orally, with outpatients receiving 240mg daily and inpatients 480mg daily over an average period of 40 days. The drug was found to be particularly effective in the treatment of endogenous depression and less effective in the treatment of involutional depression. The preparation is generally well tolerated and is a valuable drug for outpatient treatment of

depressive states. In one case of schizophrenia with depressive symptoms, dibenzazepine did not aggravate manifestations of the schizophrenic psychosis. (Author abstract modified)

**118208 Krzyzowski, Janusz; Skaryszewska-Sawicka, Jadwiga; Marcjan, Kazimierz.** Klinika Psychiatryczna AM, ul.Nowowiejska 27, Warsaw, Poland /Prophylactic effect of lithium salt in affective psychoses./ Profilaktyczne działanie soli litu w psychozach afektywnych. *Psychiatria Polska (Warszawa)*. 5(3):283-288, 1971.

The use of lithium in affective psychoses is examined on the basis of data from the literature and past experimental studies. Information on the pharmacology and toxicology of lithium is presented from case studies of 18 patients with diagnoses of manic-depressive psychosis. Experimental administration of lithium over a period of two years has shown the effectiveness of lithium as a prophylactic in affective psychoses. Administration should be systematic and long-term, and the dose should vary from 500 to 1,250mg daily in dependence upon the individual need. 29 references. (Author abstract modified)

**118209 Bukowczyk, Adam; Horodnicki, Jan M.; Szydlik, Henryk.** Klinika Psychiatryczna AM, ul.Kraszewskiego 25, Wrocław, Poland /Clinical evaluation of dibenzazepine (Noveril) in the treatment of depressive syndromes./ Ocena kliniczna dwubenzepiny (Noverilu) w leczeniu zespołów depresyjnych. *Psychiatria Polska (Warszawa)*. 5(3):289-294, 1971.

The effects of treatment with dibenzazepine are presented in the case of 52 patients with depressive syndromes. The drug was administered twice daily, with the dosage each day not exceeding 560mg. Remission of psychosis was obtained in approximately 38%, while 44% showed improvement in the hospital or remission of the basic depressive symptoms. In the remaining cases, neither improvement nor exacerbation of the mental state was observed. The best therapeutic effects were obtained in endogenous and endoreactive depressions with symptoms of inhibition and in psychogenic, reactive depressions occurring on the basis of neurosis, primarily with symptoms of anxiety. The drug, which combines the essential properties of a thymoleptic with a tranquilizing action, is generally well tolerated. In sporadic cases of individual nontolerance, it may cause damage to the parenchymal organs or may

produce vegetative crises with amentive hallucinatory syndromes. 9 references. (Author abstract)

118218 Wacławik, Paweł. ul. Dzierżyńskiego 31, Cieszyń, Poland /Case of the circular form of cyclophrenia treated with lithium carbonate for a period of 4 years./ Przypadek postaci naprzemiennej cyklofrenii leczony przez cztery lata węglanem litu. *Psychiatria Polska (Warszawa)*. 5(3):345-346, 1971.

The case of a female patient is reviewed who was treated for the circular form of cyclophrenia with lithium carbonate for four years. Observation of the patient indicated that this treatment is relatively safe. Lithium carbonate was not only therapeutic for mania but also had a prophylactic action. The fluctuation of catecholamine level and the preventive effect of lithium carbonate in cyclophrenia suggest that the psychosis is caused by certain biochemical mechanisms.

118222 Falkowski, Stefan. Szpital Miejski dla Nerwowo i Psychicznie Chorych w Dřewnicy, Poczta Zabki k/Warsaw, Poland /Case of delirium following resuscitation, with mild psychoorganic sequelae./ Przypadek delirium po reanimacji, z nieznacznymi następstwami psychoorganicznymi. *Psychiatria Polska (Warszawa)*. 5(3):359-361, 1971.

A case is presented of a female patient aged 39 years who experienced cardiac arrest, was resuscitated with heart massage, and then suffered from delirium. The patient manifested psychotic disturbances of an unstable type which were eliminated slowly in the course of treatment with neuroleptic agents. Upon completion of therapy, these symptoms had disappeared completely. In contrast to patients described in the literature, this subject exhibited only a slight decline in intellectual function following elimination of mental disturbances and was able to return to normal life and work.

118365 Kielholz, P. no address /Present therapy of depressive states./ Aktueller Stand der Depressionsbehandlung. *Ceskoslovenska Psychiatrie (Praha)*. 67(6):337-345, 1971.

Correct nosological and phenomenological diagnosis is necessary for successful therapy of depressive states because of their multifactoral genesis. Undesired side effects of antidepressive psychopharmacotherapy are mostly in direct relation to the intensity of the depression. Pharmacotherapy should always be accompanied by

psychotherapy which should be the more intensive when more psychogenic factors participated in producing the depressive state. Further research of the effects of antidepressive drugs on biogenous amines may contribute to the development of better and quicker acting antidepressive substances. (Author abstract modified)

118778 Abuzzahab, F.S.; Ehlen, K. James. Department of Psychiatry and Pharmacology, University of Minnesota, Minneapolis, MN 55455 The clinical picture and management of Gilles de la Tourette's syndrome. *Child Psychiatry and Human Development*. 2(1):14-25, 1971.

Gilles de la Tourette's syndrome is a rare disorder, usually of childhood onset, characterized by multiple muscular tics and vocalizations frequently in the form of coprolalia; other abnormal motor manifestations are frequently seen. Of the seven cases reported, six are completely characteristic of the syndrome. Five patients showed improvement of symptoms on haloperidol, while two patients (both with severe cases and evidence of organic changes in the central nervous system) showed no improvement, even at doses up to 20 milligrams per day. In two of the responding patients, tolerance to haloperidol developed. Early treatment is felt to be important. The natural course of this disorder could be better understood if, as suggested, an international registry could be launched. 27 references. (Author abstract)

122374 McLeod, W.R.; McLeod, M.F. University of Auckland, New Zealand Serotonin and severe affective disorders. *Australian and New Zealand Journal of Psychiatry (Carlton, Australia)*. 5(4):289-295, 1971.

Monoamines have been associated with affective disorders following observations on the effects of mood elevating and mood depressing drugs. In addition, abnormalities in the metabolism of the biogenic amines have been reported in these illnesses. Experimental studies on animals have further supported the view that both catecholamines and indoleamines are important for the maintenance of normal mood states. The monoamine hypothesis of affective disorders states that severe depression is associated with a relative deficiency of brain monoamines, while clinical improvement follows correction of this deficit. The converse applies to mania and antimanic treatments. The evidence for these asser-

tions is critically examined and it is hypothesized that changes in the levels of the biogenic amines are only part of a more complex biochemical disturbance involving the hypothalamic - pituitary - adrenocortical system. 32 references. (Author abstract modified)

**122942** Wlosinska, Irena. Klinika Psychiatryczna AM, ul.Nowowiejska 27, Warsaw, Poland /Influence of active biological treatment on the time of duration of remission in manic-depressive psychosis./ Wplyw aktywnego leczenia biologicznego na czas trwania remisji w psychozie maniako-depresyjnej. *Psychiatria Polska (Warszawa)*. 5(5):543-550, 1971.

A study was made of 1158 remission periods described in archival material concerning 211 patients who had been hospitalized in the psychiatric department of the Medical Academy in Warsaw in order to examine the influence of electroshock, nonthymoanaleptic (mainly neuroleptic), and thymoanaleptic treatment on the time of duration of remission in manic-depressive psychosis. Analysis of the material showed that active biological treatment has the effect of reducing the time of duration of interphasic periods of remission. The time of duration of these periods is least reduced following electroshock treatment and most markedly reduced when thymoanaleptic treatment is applied. There is a need, therefore, for methods which will counteract the unfavorable influence of active biological treatment. 22 references. (Author abstract)

**122947** Bilikiewicz, Adam; Zurada-Wyrwinska, Joanna. Klinika Chorob Psychiczych AMG, ul.Debinki 7, bud.25, Gdansk 6, Poland /Evaluation of the therapeutic significance of the preparation 'IB-503' on the basis of personal clinical experience over a period of four years./ Ocena wartosci leczniczej przetworu 'IB-503' na podstawie wlasnych czteroletnich doswiadczen klinicznych. *Psychiatria Polska (Warszawa)*. 5(5):577-584, 1971.

The efficacy of the preparation IB-503 was evaluated on the basis of clinical experience with 161 patients who had been treated with the preparation for an average of 22 days. IB-503 can be defined as a neuroleptic drug with a wide range of indications. Treatment results obtained in 32 patients with various depressive syndromes showed that it can be considered an antidepressant as well. It also has a syndromolytic action in manic states. The drug had thymoregulating pro-

perties and potent sedative effects. Insomnia was able to be controlled with the preparation independently of the underlying condition. The drug is well tolerated, with side effects related to its anticholinergic properties. 7 references. (Author abstract)

**125786** Czerwinski, Andrzej; Kapelski, Zdzislaw. Klinika Psychiatryczna AM, ul.Szpitalna 27/33, Poznan, Poland /Results of administration of Anafranil in endogenous depressive syndromes./ Wyniki stosowania Anafranilu w endogennych zespolah depresyjnych. *Psychiatria Polska (Warszawa)*. 5(6):681-685, 1971.

Chlorimipramine (Anafranil) was administered to 30 patients with diagnoses of endogenous depression. Beneficial effects were attained in 66.7% of these patients, with the best response noted in subjects with unipolar endogenous depression. Chlorimipramine promoted a striking improvement in the mood of the patients, alleviated their anxiety, and increased their activity. In intramuscular and oral dosages ranging up to 150mg per day, chlorimipramine was well tolerated and did not cause any significant side effects. 18 references. (Author abstract modified)

**125991** Lenz, H.; Purgyi, P. Krankenhaus der Barmherzigen Bruder, Rudigierstr.11-13, A-4010 Linz (Donau), Austria /Lithium prophylaxis of cyclothymic psychoses./ Lithiumprophylaxe zyklolyther Psychosen. *Wiener Medizinische Wochenschrift (Wien)*. 121(25/26):522-524, 1971.

The efficacy of lithium salts in the treatment of manias and as a prophylactic in relapsing endogenous depressions, manic-depressive disorders and process like schizoaffective psychoses has been established. Contraindications include decompensating cardiac or renal disorders, simultaneous sodium chloride restriction, dispensation of diuretics, pregnancy in the first trimester, and convulsive tendencies. The serum lithium level should be tested regularly by means of flame photometry. Based on past experience, marked improvement can be expected in about two thirds of cases, absence of symptoms in about one half. Aside from tremor in combined treatment with benzodiazepine derivatives, side effects were insignificant. 16 references. (Author abstract modified)

**126102** Gall, H. Nervenlinik der Universitat, DDR-2200 Greifswald, Germany /Attempted

therapy of depressive psychosis by means of experimentally induced skin allergies./ Therapieversuche durch experimentelle Erzeugung von Hautallergien bei depressiven Psychosen. *Nervenarzt (Berlin)*. 42:495-497, 1971.

Attempted therapy of depressive psychosis by means of experimentally induced skin allergies is presented. Certain periodic psychoses have shown sudden remission after intercurrent illness or stress reactions. The preconditions for abatement are largely unknown, but episodic shifts have frequently followed intercurrent allergies. Thirty five patients with primarily endogenous depressions were given intracutaneous injections of rabbit serum. Five patients developed a complete phenomenon of Arthus and showed total abatement of the depressive phase; nine additional subjects experienced distinct improvement. The remaining 21 cases remained unaffected. Endogenous depressions responded most favorably, whereas neurotic or brain-damaged forms showed less encouraging results. 45 references. (Author abstract modified)

#### 10 DRUG TRIALS IN NEUROSES

074202 Brodie, H. Keith; Bunney, William E. Dept. of Psychiatry, Stanford University School of Medicine, Stanford, California Drugs and treatment of depression and mania. *Medical Insight*. 3(1):17-21, 1971.

Major drugs used in the treatment of affective illness are discussed and indications, contraindications, side effects and suggested doses are considered. For the depressed patient selected as a candidate for chemotherapy, the first drugs of choice are the tricyclic antidepressants. Patients who do not respond to those or who are severely retarded and psychotically depressed may do well on a monoamine oxidase inhibitor. Lithium carbonate is the treatment of choice for the acutely manic patient and is also effective in the prevention of recurrent manic-depressive psychosis.

074974 Goldstein, Burton J.; Brauzer, Benjamin. University of Miami School of Medicine, P. O. Box 875, Biscayne Annex, Miami, Florida 33152 Pharmacologic considerations in the treatment of anxiety and depression in medical practice. *Medical Clinics of North America*. 55(2):485-494, 1971.

Anecdotal information has indicated that between 40 and 70% of the medical practitioner's patients are treated primarily for the target symp-

toms of anxiety and depression, or these symptoms as concomitants of organic illness. Some of the more cogent considerations influencing the outcome of treatment with ataractic (minor tranquilizer and antianxiety) and antidepressant drugs are considered. The major classes of psychotropic drugs are reviewed, most frequently reported symptoms and observable signs of anxiety and depression are outlined, and treatment suggestions are set forth. 33 references.

078943 Schwellkart, William. 29-03 Union Street, Flushing, New York Anxious-depressed adults and problem children treated with thioridazine in private practice. *Current Therapeutic Research*. 13(3):162-168, 1971.

A clinical study is made of the effect of treatment with thioridazine of anxiety - depressive syndrome in adults and of behavioral disturbances of children and adolescents. The successful results achieved bear out the usefulness of thioridazine in the psychiatric treatment of patients in private practice. In the study, thioridazine was administered to a group of 54 adults and 28 children and adolescents treated as psychiatric patients. Over 85% of the adults achieved good or excellent results with thioridazine, chiefly upon their dominant symptoms of anxiety and depression. Of the children and adolescents studies, 92.8% had good or excellent results, their greatest improvement occurring in the reduction of anxiety, crying spells and violent outbursts. 13 references. (Author abstract modified)

079289 Heller, Abraham; Zahourek, Rorry; Whittington, H. G. Community Mental Health Center, Department of Health and Hospitals, W. Sixth Avenue and Cherokee Street, Denver, Colorado 80204 Effectiveness of antidepressant drugs: a triple-blind study comparing imipramine, desipramine, and placebo. *American Journal of Psychiatry*. 127(8):1092-1095, 1971.

A triple blind comparison of placebo, imipramine, and desipramine in severely depressed hospitalized psychiatric patients is reported. It was found that both drugs were superior to placebo, that imipramine was the drug of choice in treating these patients, and that imipramine was superior to desipramine and placebo in the rapidity of action and in the degree of improvement noted. 3 references. (Journal abstract)

079432 Rickels, Karl; Downing, Robert W.; Howard, Kay. Department of Psychiatry, University of Pennsylvania, Philadelphia, Pennsylvania Predictors of chlordiazepoxide response in anxiety. *Clinical Pharmacology and Therapeutics*. 12(2):263-273, 1971.

An investigation is made of the prediction of response of treatment in anxiety with chlordiazepoxide or placebo. In the study, a step search, multiple regression procedure was employed in a group of 111 patients treated with chlordiazepoxide and 201 patients treated with placebo, using as potential predictors several forms of demographic information, assessments of the severity of initial psychopathology, and measures of patient and physician attitude. Patients were drawn from 2 hospital clinic settings and the private practices of several general practitioners and psychiatrists. They participated in a double-blind drug trial of 4 weeks' duration. All were psychoneurotic and most complained of moderately severe anxiety. Outcome criteria included both a global improvement measure, combining physician ratings of overall response to treatment after 2 and 4 weeks, and the 4 week change score of the 10 item physician questionnaire. Treatment differences were highly significant for both improvement measures. Also, for both improvement measures, greater drug-placebo differences were found in patients who: were more severely ill; were of higher socioeconomic class; and had an illness of 6 months' or more duration. Irrespective of treatment agent, greater improvement was seen in those patients receiving a more favorable prognosis. Several additional variables were predictive for 1 but not the other measure of improvement, and their implications, more tentative than those for the more consistent predictors, have been explored. 15 references. (Author abstract modified)

085013 DiGiacomo, Joseph N.; Fahn, Stanley; Glass, Joel B.; Westlake, Robert J. Department of Psychiatry, University of Pennsylvania, Philadelphia, Pennsylvania 19104 A case with Gilles de la Tourette's syndrome: recurrent refractoriness to haloperidol and unsuccessful treatment with L-dopa. *Journal of Nervous and Mental Disease*. 152(2):115-117, 1971.

A 38 year old patient with the characteristic symptoms of Gilles de la Tourette's syndrome including motor tics and explosive utterances had been treated with both psychotherapy and haloperidol. Haloperidol gave complete relief of

symptoms, but after 5 years the symptoms returned despite increase in the dosage to 20 mg/day. The patient was admitted to a psychiatric ward, withdrawn from all medicines and then treated with chlorpromazine at a level of 900 mg/day; in addition, L-dopa was started and increased to 6 g/day over 7 weeks. The chlorpromazine L-dopa treatment produced no significant change in symptoms. During the eighth week, these medicines were discontinued and haloperidol was again started. Within 3 weeks of resuming haloperidol, all explosive utterances and tics were absent. This case report suggests that the symptoms of Gilles de la Tourette's syndrome can become reversibly refractory to haloperidol and that treatment with L-dopa and chlorpromazine is ineffective in this syndrome. 8 references. (Journal abstract)

086897 Goldstein, Burton J.; Brauzer, Benjamin. Department of Psychiatry, University of Miami School of Medicine, Miami, Florida Comparison of molindone and placebo in anxious depressed patients. *Current Therapeutic Research*. 13(6):344-349, 1971.

In the present study, molindone was compared to placebo over a 4 week period in the treatment of patients suffering from symptoms of anxiety and depression. A slight trend in the direction of global improvement was observed in the molindone treated group. Improvement was observed on the physician rating scale, and self-rating symptom scale in both treatment groups, but no statistical differences were observed between groups. The failure to demonstrate statistically significant differences between the 2 groups may be due to the small sample size of patients studied. The differential incidence of side-effects was nearly 2:1 in the molindone group, with drowsiness most frequently reported. The results of the present study compare closely to unpublished data in which molindone treated patients achieved a global improvement score of 2.22. The utilization of mean severity scores, made available by the George Washington University Biometric Laboratory and ECDEU Data Bank were helpful in making a comparison between the severity of symptoms in patients in the present study to similar patient populations (anxious - depressed) treated in other psychopharmacology units who contribute data to the Biometric Laboratory of the George Washington University. 10 references. (author abstract)

087042 Vaedtko, Janina; Minner, Zygmunt. ul. Lindley'a 4. Państwowy Szpital Kliniczny Nr 1, Warsaw, Poland /Anorexia nervosa, its psychiatric, internal and surgical problems./ Jadowstret psychiatryczny, jego aspekty psychiatryczne, internistyczne i chirurgiczne. *Wiadomości Lekarskie (Warsaw)*. 7(24):699-703, 1971.

A clinical case is reported on the typical manifestations of anorexia nervosa, such as vomiting, weight and appetite loss, diarrhea alternating with constipation and amenorrhea, which first became evident during puberty in a 17 year old girl who had conflicting emotional and familial problems since early childhood. The adolescent was intelligent, perceptive, although she tended to mask her feelings from the outside world. The condition was solely of psychogenic etiology and she responded favorably to psychological as well as to pharmacological treatment with 500mg or less of promazine daily. 10 references.

087135 Vencovsky, E. Psychiatricka klinika, Plzen, Czechoslovakia /Medazepam (Nobrium) in the therapy of psychoneuroses./ O leče psychoneuroz medazepamem (Nobrium). *Ceskoslovenska Psychiatrie (Praha)*. 67(1):14-17, 1971.

Twenty six patients were treated by medazepam at the psychiatric clinic in Plzen. Eleven suffered from nosophobic syndromes (infarctophobia, cirrhosophobia, cancerophobia, tu-cerebrophobia) and 4 had situation phobic syndromes (agoraphobia, claustrophobia). Eight patients had organic neurosis, i. e. psychovegetative gastrointestinal and cardiovascular syndrome, accompanied by anxiety and tension. Three patients suffered from neurotic tic. Criterion of therapeutic effect was the improvement of clinical and social conditions of the inpatient permitting their dismissal, or in outpatients, regained working capacity. The therapy was maintained for 4 weeks then discontinued and clinical and social condition of the patients evaluated. Medazepam was given 3 times daily, 5mg, for the first 3 days, the dose being then increased to 3 times 10mg daily. Achieved therapeutic results were surprising: 14 patients showed excellent improvement, 7 patients were partially improved, and 5 patients showed no improvement. Best results i. e. relative practical healing, was reached in organo-psychovegetative syndromes with anxiety and tension and nosophobic syndromes. Situation phobias (agoraphobia, claustrophobia) showed no improvements nor did neurotic tics of facial muscles. No side-effects were noticed and routine

laboratory tests remained always within physiological range. 4 references. (author abstract modified)

087487 Goldstein, Léonide; Pfeiffer, Carl C. Neuropsychopharmacology Section, New Jersey Neuropsychiatric Institute, Princeton, New Jersey Quantitative EEG analysis of single-dose effect relationships in normal volunteers of Pacinox (capuride), a new antianxiety drug. *Biological Psychiatry*. 3(2):165-172, 1971.

Capuride, (2-ethyl-3-methylvaleryl) urea, was administered to 11 normal volunteers at 100, 200, and 400mg oral doses in a placebo-controlled double-blind, cross-over study. The left occipital EEG was recorded monopolarly and integrated on line during 10 min predrug, and for 10 min at 6 1 hr intervals postdrug. A dose effect relationship was manifested in both decreased of EEG amplitudes and increased in EEG variability. With 200 mg, significant changes occurred at 2 hr postdrug and persisted up to at least 6 hr. It was reported previously that similar changes in quantitated EEG studies were produced by chlordiazepoxide, meprobamate, and phenobarbital. The effects of capuride, 200 mg. compare favorably with chlordiazepoxide, 20 mg; meprobamate, 800 mg, and phenobarbital, 20 mg; in terms of onset, duration, and magnitude of the effect. 15 references. (Author abstract)

088148 Hollister, Leo E.; Overall, John E.; Pokorny, Alex D.; Shelton, Jack. Veterans Administration Hospital, 3801 Miranda Avenue, Palo Alto, California 94304 Acetophenazine and diazepam in anxious depressions. *Archives of General Psychiatry*. 24(3):273-278, 1971.

Acetophenazine and diazepam are tested in treatment of anxious depressions and are found to be effective drugs. Sixty seven newly admitted depressed patients were classified on the basis of their presenting signs and symptoms as having the syndrome of anxious depression. They were assigned randomly either to treatment with the phenothiazine derivative, acetophenazine, or with the antianxiety drug, diazepam. After 4 weeks of treatment, both groups were equally improved. Study of the interactions between drugs and demographic variables revealed that patients with less long-term and uncomplicated depressions responded better to diazepam, the converse being true for acetophenazine. Although previous studies indicated that phenothiazine derivatives were

preferable to conventional tricyclic antidepressants in patients with anxious depressions, anti-anxiety agents are also effective. In fact, because most patients fall into the group which responds best to them, as well as because of their greater safety, drugs such as diazepam might be the first choice for treating the most common depressive syndrome, that of anxious depression. 18 references. (Author abstract modified)

**088243** Kerry, R. J.; McDermott, C. M. Northern General Hospital, Sheffield, S5 7AU, England. Medazepam compared with amylobarbitone in treatment of anxiety. *British Medical Journal* (London). 5741:151-152, 1971.

Experimentation is reported involving use of medazepam compared with amylobarbitone in the treatment of anxiety. A double-blind crossover comparison of medazepam 10mg 3 times a day against amylobarbitone 60mg 3 times a day in outpatients with neurotic anxiety showed that medazepam was superior in relieving symptoms. At this dose of medazepam drowsiness or ataxia was rarely a problem. 7 references. (Author abstract modified)

**089066** De Gregorio, M.; Dionisio, A. Clinical Research Department, 'F. Angellini Laboratories', 70 Viale Amella, Rome, Italy. A controlled clinical study of a new antidepressant (trazodone). *Panminerva Medica* (Torino). 13(1-2):27-30, 1971.

Trazodone and imipramine (maximum daily dose of 500mg and 250mg respectively) were administered for 10 days each with a 4 day placebo interval in a cross-over double-blind trial on 37 patients with depression syndromes. Statistical analysis showed: the overall activity of both drugs was the same; better clinical results were obtained with the trazodone-imipramine sequence; the superiority of trazodone in this sequence. The findings may be attributed to qualitative factors as differences in mode of action effect on the source of the depression, duration of effect or to a difference in responsiveness to the drug by the 2 groups. 11 references. (author abstract modified)

**091119** Marshall, Myron H. Department of Research, Silver Hill Foundation, New Canaan, Connecticut 06840. The psychopharmacology of depression: perspectives in research. *Psychosomatics*. 12(1):49-55, 1971.

A cooperative longitudinal study of 91 patients treated with the antidepressant drug, desipramine

(Norpramin) is reported. The results are analyzed in regard to apparent degree of efficacy and side-effect liability, with emphasis placed on the correspondence of improvement, or lack of it, in depression and in sleep quality. In general, Norpramin was found to be efficacious to the same degree that other tricyclic antidepressants have been in the preponderance of other studies. But contrary to previous observations, the drug was found to be more effective in neurotic rather than psychotic depressions. A clearly parallel improvement in sleep occurred when depression improved but there was a lack of improvement when depression was sustained. No serious adverse effects occurred. 10 references. (Author abstract modified)

**091448** Bowers, Malcolm B., Jr.; Van Woert, Melvin; Davis, Linda. Dept. of Psychiatry, Yale University School of Medicine, New Haven, Connecticut 06510. Sexual behavior during L-dopa treatment for parkinsonism. *American Journal of Psychiatry*. 127(12):1691-1693, 1971.

Nineteen patients who were receiving L-dopa for parkinsonism were interviewed to assess the effect of L-dopa treatment on sexual behavior. Seven patients (37%) reported an activation of sexual behavior at some point during the therapy. Interview data suggested that such a report may actually result from at least 3 possible effects of L-dopa. 2 references. (Author abstract)

**092456** Lipman, Ronald S.; Covi, Lino; Derogatis, Leonard R.; Rickels, Karl; Uhlenhuth, E. H. National Institute of Mental Health, 5454 Wisconsin Ave., Chevy Chase, Maryland 20015. Medication, anxiety reduction and patient report of significant life situation events. *Diseases of the Nervous System*. 32(4):240-244, 1971.

An aspect of a double-blind, placebo controlled, outpatient trial of chlorthalidone and meprobamate, in which patients reports of significant life situation events were examined in relation to the medication they received and the extent of clinical improvement they experienced, is discussed. After 2 weeks on medication, chlorthalidone treated patients evidenced reliably greater anxiety reduction than did meprobamate or placebo patients and they also reported a higher percentage of positive life situation events than did the other 2 patient groups. The difference in the magnitude of drug effects was not found to vary reliably as a function of life event category (positive, negative

and none). A careful review of the content of the reported life events, as well as other considerations, suggest that these events can best be conceptualized as projective in nature and thus as an indirect criterion of clinical improvement. 5 references. (Author abstract modified)2

**092841 Hussain, M. Z. Moose Jaw, Saskatchewan, Canada Assessing antidepressants' effectiveness. *American Journal of Psychiatry*. 127(12):1698-1699, 1971.**

An article in the September 1970 issue by Drs. DeSilverio, Rickels and associates in assessing perphenazine, amitriptyline, and perphenazine and amitriptyline combined in neurotic depressives is discussed. It is felt that clinical evaluation of drug treatment not only reflects the pharmacological effect but also the therapist's way of presenting treatment, the patient's and therapist's expectations, environment in which treatment is given and the therapist's attitude to the patient. To eliminate lack of objectivity in drug studies, it is suggested a double-blind trial incorporating a noninert placebo be used to assess antidepressants. 6 references.

**093260 Vaughan, Tom; Wyatt, Richard J.; Green, Richard. Laboratory of Clinical Psychopharmacology, National Institute of Mental Health, Bethesda, Maryland 20014 Changes in REM sleep of chronic anxious depressed patients given alpha-methylparatyrosine (Unpublished paper). Bethesda, Maryland, NIMH, 1971.**

Five chronically anxious, depressed patients (40 to 59 years old) who failed to respond to previous antidepressive measures were administered a therapeutic trial of 3gm/24 hr. dl-alpha-methylparatyrosine (AMPT) for a 2 to 3 week period. AMPT is a selective inhibitor of norepinephrine and dopamine synthesis. This was preceded and followed by a 2 week placebo period. Prior to the first placebo period patients were drug free for at least 10 days. Sleep records were obtained for 7 days prior to active drug administration, throughout the entire drug period and for 10 days thereafter. Only data during the last 5 nights of placebo (P) and first 5 nights of AMPT are presented. It was observed that muscle potential (measured by standard techniques) failed to diminish during low voltage, fast EEG activity associated with rapid eye movements and absence of alpha rhythm (times when REM sleep was expected) in all patients given AMPT. The trend

toward increased REM sleep with AMPT is in agreement with previous AMPT study on human sleep. The failure for tonic muscle activity to diminish may be related to similar findings in cats in which lesions in the norepinephrine containing locus coeruleus have been made. (Author abstract modified)

**095539 Uhlenhuth, E. H.; Lipman, Ronald S.; Chassan, J. B.; Hines, L. R.; McNair, Douglas M. Division of Biological Sciences, University of Chicago, Chicago, Illinois Methodological issues in evaluating the effectiveness of agents for treating anxious patients. In: *Levine, J., Principles and problems of psychotropic agents*. Washington, U.S. Government Printing Office, 1971. 392 p. (p. 137-161).**

Methodological issues in evaluating the effectiveness of agents for treating anxious patients are discussed. Anxious patients here refer to adult outpatients in the psychoneurotic spectrum with a more or less important component of manifest anxiety. Such patients receive principally drugs in the sedative anxiolytic group with the aim of symptom relief. Methodological issues discussed are: patient characteristics, setting, criteria of effectiveness, design, drug as a variable, and statistical methods. These considerations are similar for each type of investigation, such as early trials, controlled studies, large scale collaborative investigations, and maintenance and prophylactic studies. 90 references.

**095542 Klein, Donald F. Hillside Hospital, Glen Oaks, New York Approaches to measuring the efficacy of drug treatment of personality disorders: an analysis and program. In: *Levine, J., Principles and problems of psychotropic agents*. Washington, U.S. Government Printing Office, 1971. 392 p. (p. 187-204).**

In a discussion of testing drug efficacy in personality disorders, the diagnostic features of the personality disorders, the syndromal aspects that might respond to medication, measurement problems, and the institutional requirements for adequate studies are investigated. Personality disorders are relatively refractory to the psychotropic drugs available, therefore there has not been much research in such areas. In order to test drug efficacy measures of the patient's social ability and productive competence are essential. Unfortunately, such measures cannot be derived from self-report, doctor interview, projective

techniques, or inferences from small samples of cross-sectional behavior. Valid measurement of these difficulties requires detailed longitudinal observational measurement of the patient's social behavior and ability to be productively engaged in role appropriate endeavors. For this purpose special facilities are needed. 17 references.

**096019** Podobnikar, Ivan G. 1460 West Lane Ave., Columbus, Ohio 43221 Implementation of psychotherapy by librium in a pioneering rural-industrial psychiatric practice. *Psychosomatics*. 12(3):205-209, 1971.

A double-blind study was conducted comparing chlordiazepoxide hydrochloride (Librium) with placebo in 46 private patients (aged 9 to 58 years) manifesting symptoms of anxiety tension, anxiety depressive features, fatigue as a manifestation of anxiety, and neurotic hyperaggressiveness of widely varying psychiatric etiology. Clinical response to each agent was measured by (a) the degree of improvement in the foregoing symptoms over initial (pretherapy) symptom intensity, rated and scored at each of 4 subsequent visits, and (b) overall improvement, as evidenced by accelerated progress in psychotherapy and in sociovocational readjustment. In the symptoms of anxiety tension, anxiety depressive complaints, fatigue as a manifestation of anxiety, and neurotic hyperaggressiveness, all resultant differences between the averaged improvement scores of drug and placebo treated groups were significantly in favor of chlordiazepoxide. Of the 22 drug treated patients, 15 achieved noteworthy overall improvements as compared with 4 of the 24 placebo recipients. Using chlordiazepoxide as adjunctive therapy reduced anxiety markedly and thus made these patients more amenable to the psychotherapeutic treatment regimen. 8 references. (Journal abstract modified)

**097556** Jolley, David. Eltham, Victoria 3095, Australia Clinical experience with thioridazine (Melleril) in the treatment of anxiety and depression associated with emotional disorders in general practice. *Current Therapeutic Research*. 13(2):111-128, 1971.

A report is made of clinical experience with thioridazine (Melleril) in the treatment of anxiety and depression associated with emotional disorders in general practice. The 43 patients in this study were 9 men and 34 women of age range 24 to 75 years, seen in general practice, and suffer-

ing from anxiety tension states frequently associated with depression or with physical symptoms. It was found that thioridazine is an effective agent in the treatment of anxiety and depression associated with emotional problems in general practice. The recommended dose is 10 to 25mg. 3 times a day, and this may be adjusted according to the patient's needs. In the cases under study, thioridazine frequently gave better results than barbiturates and was sometimes found to be more effective than other phenothiazines or antidepressants. There is a tendency for the preparation to produce drowsiness in some cases, and care may be necessary in the initial dosage. No serious side effects were encountered. 3 references.

**098093** Bercel, Nicholas A. Department of Physiology, University of Southern California School of Medicine, Los Angeles, California Global ratings compared to rating scales in evaluating trifluoperazine-amobarbital in anxious psychoneurotic outpatients. *Behavioral Neuropsychiatry*. 2(11-12):15-19, 1971.

Twenty five psychiatric outpatients having acute and subacute symptoms of anxiety and receiving psychotherapy were given either trifluoperazine and amobarbital or placebo for 1 month, and their response was measured by means of a new symptom rating scale, the Physician's Rating List (PRL), global assessments, and patient self-rating scale. Trifluoperazine-amobarbital was shown to be superior to placebo; it provided a significantly greater reduction of anxiety and total morbidity and also significantly more good to excellent results, as measured by the PRL and by the global ratings. Side effects, which were reported nearly twice as often with the active regimen as with placebo, were usually mild and disappeared after a few days. In no case was it necessary to reduce dosage or discontinue therapy because of them. The results obtained showed that trifluoperazine-amobarbital, as an adjunct to psychotherapy, has a useful place in the treatment of psychoneurotic disorders. Of the 2 rating forms used in this study, the PRL proved more useful and in this small patient series was able to discriminate between trifluoperazine-amobarbital and placebo. The patient self-rating scale, on the other hand, proved to be a new source of anxiety and test of stress for many patients and would be better omitted in a psychoneurotic patient population. 2 references. (Journal abstract)

099031 Castrogiovanni, Paolo; Placidi, Gian-Franco; Maggini, Carlo; Ghettti, Bernardino; Cassano, Giovanni B. Psychiatric Clinic, University of Pisa, Pisa, Italy Clinical investigation of Doxepin in depressed patients. Pilot open study, controlled double-blind trial versus Imipramine, and all-night polygraphic study. *Pharmakopsychiatrie Neuro-Psychopharmakologie (Stuttgart)*. 4(4):170-181, 1971.

Doxepin, (11-dimethyl-amino-propylidene-6H-dibenz(b,e)-oxepine hydrochloride), a new tricyclic, compound was studied in an open pilot test and compared to imipramine in a controlled trial on depressed patients; a polygraphic study of all night sleep was also performed on a number of patients before and after doxepin treatment. Endogenous depressive and neurotic subjects were found to improve significantly under doxepin treatment, though the involutional depressions were found to have the greatest improvement. Antidepressant properties of doxepin were also supported by polygraphic findings, showing an increase in stage IV REM; similar changes in depressed sleep patterns have been demonstrated to occur during treatment with other antidepressants. Doxepin could be differentiated from imipramine on the basis of the following findings: shorter period which elapses before antidepressant action appears (8 days for imipramine and 16 days for doxepin); greater sedative anxiolytic action of doxepin; better tolerability of doxepin. 19 references. (Author abstract modified)

099124 Ekdawi, M. Y. Netherne Hospital, Coulsdon, Surrey, England Dibenzepin and amitriptyline in the treatment of depression. *The British Journal of Psychiatry (London)*. 118(546):523-524, 1971.

The antidepressant properties of the new tricyclic drug, dibenzepin hydrochloride as compared with amitriptyline were tested. J. M. Fielding, in a double-blind comparative trial, found no significant difference in the speed of the effect of the 2 drugs in depressed patients and that side effects rated subjectively by patients were maximal before starting on the drugs and tended to decrease with time. In the present experiment, 79 acutely depressed patients of either sex below age 65 were allocated randomly to treatment groups. Sixty of the patients completed the trial. In each group, the majority of patients responded to lower dosage levels, onset of response and total response being similar for both compounds. Side effects and patient reactions are discussed; the

chief complaints being attributed to the anticholinergic actions of the drug or to a sedative action. It is believed that some of the symptoms may reflect the degree of depression and associated hypochondriasis, rather than being true side effects; the high incidence of symptoms in the placebo period and a rapid falling off of such symptoms as insomnia, fatigue, anorexia after the first week of treatment with the drug tend to support this view.

099155 Winkelman, N. Willam, Jr. Sidney Hillman Medical Center, Philadelphia, Pennsylvania Haloperidol as a treatment of anxiety in psychoneurotic patients. *Current Therapeutic Research*. 13(7):451-456, 1971.

Haloperidol (a butyrophenone) was evaluated in the treatment of 84 neurotic patients. Anxiety was the major presenting symptom in this group of patients; agitation, tension, irritability, and lethargy were also sometimes present. The mean severity of each of the 5 target symptoms was reduced, and the reductions in anxiety, agitation, and tension were statistically significant. More than 50% of the patients showed a marked or moderate improvement in environmental adjustment after treatment with haloperidol. Side effects were reported in about one third of the patients. These were easily controlled and did not pose any treatment problem except in 6 patients who dropped out or were removed from the study due to the severity of their reactions. The reactions in these patients disappeared after drug was discontinued. 17 references. (Author abstract modified)

099320 Friedman, D. E.; Lipsedge, M. S. Dept. of Psychological Medicine, St. Bartholomew's Hospital, London EC1, England Treatment of phobic anxiety and psychogenic impotence by systematic desensitization employing methohexitone-induced relaxation. *British Journal of Psychiatry (London)*. 118(542):87-90, 1971.

Results of behavior therapy using methohexitone in 124 patients with phobic anxiety states are reported. Disorders included social anxieties, monosymptomatic and heterosexual phobias and the agoraphobic syndrome. After a mean period of 19.4 months 47 patients (38%) were symptom free, 63 (51%) were improved and only 14 (11%) showed no change. 15 references. (Author abstract modified)

099882 Van Coller, P.E. Posbuslpox 4452, 703 Medipark 703, Hertzog Boulevard, Kaapstad Capetown, South Africa Flupenthixol (Fluanxol) in the treatment of psychosomatic disorders in medicine. *Psychosomatics*. 12(4):256-259, 1971.

Results are presented from a study of the effectiveness of flupenthixol (Fluanxol) in the treatment of psychosomatic disorders. It was found that the drug, when administered in small, individually adjusted doses, proved clinically valuable. A before and after treatment battery of psychosomatic tests, applied for anxiety and tension with or without depression, showed that these symptoms almost disappeared. Intercorrelations of the battery of tests showed statistically that each test measured a different dimension, and that the battery of tests were therefore justifiable and reliable. Fluanxol has been under trial for institutionalized organic psychotics, where sleep disturbance and extrapyramidal complications were observed. This study involved outpatient cases who received small doses and revealed no side effects. Fluanxol therefore is a useful drug in outpatient cases presenting with anxiety and tension and psychosomatic sequelae. This neuroleptic drug is fast acting, has no sedative effect, and few side effects with small doses. 14 references. (Author abstract modified)

100208 Rickels, Karl; Gordon, Paul E.; Jenkins, B.Wheeler; Sablosky, Lester; Vlachos, Vasilios; Weise, Charles C.; Whalen, Edward M.; Wilson, D.A. Private Practice Research Group, Department of Psychiatry, University of Pennsylvania, Philadelphia, Pa. 19104 Combination of meprobamate and benactyzine (Deprol) and constituents in neurotic depressed outpatients. *Diseases of the Nervous System*. 32(7):457-467, 1971.

The combination of meprobamate and benactyzine was compared to its single constituents and to placebo in a 4 week, double-blind study carried out with 233 neurotic depressed outpatients from general as well as psychiatric practice. Data were analyzed within a 2 (population) x 4 (drug) factorial design, using univariate and multivariate covariance analyses. The main findings were: 1) the drug combination and meprobamate produced significantly more clinical improvement than benactyzine or placebo (main drug effects); 2) general practice patients improved significantly more than psychiatric patients (main population effects); 3) the drug combination was the most effective agent in psychiatric patients and meprobamate in

general practice patients (drug x population interaction effects). 15 references. (Author abstract)

100535 Claghorn, James; Kellner, Robert. Texas Research Institute of Mental Sciences, Houston, Texas When is a tranquillizer an antidepressant? *Current Therapeutic Research*. 13(9):575-579, 1971.

The effect of an antianxiety agent, oxazepam and an antidepressant, protriptyline, and a combination of the 2 compounds were compared in a double-blind study with neurotic patients presenting with mixed states of anxiety and depression. There was a significant improvement in scores over time for all 3 treatments. Of several variables, only 2 discriminated between the treatments at a significant level. The results suggested that all 3 medications were effective in reducing the severity of symptoms of anxiety and depression. The results are in accord with the findings of others and may indicate that the present practice of classification into antianxiety and antidepressant drugs is not as valuable a guide to accurate prescribing as is commonly believed. 8 references. (Author abstract)

100538 Bonn, J.A.; Salkind, M.R.; Rees, W.Linford. Academic Department of Psychological Medicine, St.Bartholomew's Hospital, London, England A technique in the evaluation of psychotropic medication based on a patient demand schedule: comparison of the efficacy of oxypertine, diazepam and placebo in anxiety. *Current Therapeutic Research*. 13(9):561-567, 1971.

The efficacy of oxypertine, diazepam and placebo in treating anxiety was assessed using a technique of medication based on patient demand schedule. Such a technique was utilized since psychiatric patients have been shown to be unreliable in taking medication on a fixed dosage schedule. The technique employs a patient demand schedule, the only limitations being the need for safety and periods of 24 hours on a fixed dose regimen prior to psychophysiological tests. An interim analysis is presented on 32 out of 60 patients treated in general practice who have completed a between patient, double-blind assessment of the efficacy of oxypertine, diazepam and placebo in the management of anxiety. The importance of taking into account personally significant life events which may change during the trial period, and bias results if not considered is emphasized. Patients were assessed by 3 self-rating questionnaires, and also clinician assessment

scales. Side effects were noted. Results on all measurements, except one of clinicians rating scales, indicated oxypertine as superior to placebo for the treatment of anxiety; both active drugs being superior to placebo. Results were statistically significant between the 5 and 1% level. 15 references. (Author abstract modified)

**100539** Sterlin, C.; Oliveros, R.; Ban, T.A.; Jarrold, Louise. L'Annouciation and Verdun, Quebec, Canada Doxepin in the treatment of psychoneurotic inpatients. *Current Therapeutic Research*. 13(9):580-583, 1971.

The effectiveness of doxepin and chlorthalidopoxide in treating psychoneurotic patients was investigated, and the results are compared to those found in previous studies. A group of 20 inpatients with such a disorder were randomly administered 1 of the 2 regimens. Results again showed no significant differences between these 2 anxiolytic-sedative drugs on the total scores of the rating scales used. Nevertheless, the only significant results achieved -- in symptoms of anxiety and depressive mood -- occurred in the chlorthalidopoxide group. On the basis of all these findings it is suggested that hospitalized psychoneurotic patients probably benefit more from chlorthalidopoxide, whereas outpatient psychoneurotic patients may respond better to doxepin. 6 references. (Author abstract modified)

**100605** Mises, R.; Monlot, M. Centre departementale de Neuropsychiatrie infantile, Fondation Vallee, 7, rue Benserade, 94-Gentilly /Double-blind comparative study of Doxepine and Medazepam in adolescents./ Etude comparative en double aveugle de la Doxepine et du Medazepam chez l'adolescent. *Annales Medico-Psychologiques (Paris)* 1(3):431-434, 1971.

A double-blind comparative study of Doxepine and Medazepam in 40 neurotic adolescents is presented. The study demonstrates the tranquilizing action of the drugs, which merits special attention in the cases treated. An attempt of differentiation based largely on the analysis of secondary effects conveys the fact that Doxepine is better able to exert a sedative action without entailing an embarrassing decrease in vigilance. (Author abstract modified)

**100736** McCormick, W.O.; O'Gorman, E.C. Department of Mental Health, Queen's University of Belfast, Belfast, Northern Ireland Preliminary

communication: 1. declining-dose drug desensitization for phobias. *Psychological Medicine (London)*. 1(4):339-342, 1971.

The use of a technique of declining dose drug desensitization (DDDD) in phobic patients is described. An antianxiety drug is used (diazepam). The blood level of diazepam declines during each treatment session, and the starting dose for each treatment session is gradually reduced. Some relevant animal work on state dependent learning in the drugged state is briefly reviewed. Despite the many other treatments available this method appears to have some advantages. Five case studies are provided. 11 references. (Author abstract modified)

**100780** Kelley, Desmond; Mitchell-Heggs, Nita; Sherman, Daniel. Atkinson Morley's Hospital, 31 Copse Hill, London, S.W. 20, England Anxiety and the effects of sodium lactate assessed clinically and physiologically. *British Journal of Psychiatry (London)*. 119(549):129-141, 1971.

Anxiety attacks were produced and monitored after infusion of sodium lactate into anxious patients. Twenty patients suffering from anxiety neurosis and 10 normal controls were given an intravenous infusion of saline followed by one of sodium lactate, and 12 minutes after the infusion ended they were stressed by mental arithmetic. Throughout the procedure, psychological and physiological arousal were monitored by observer and self-ratings of anxiety, forearm blood flow and heart rate. All these measures increased significantly when the intravenous cannula was inserted. 18 references. (Author abstract modified)

**100790** Rogerson, Rowland; Butler, John K. The Surgery, Mizzen Road, Beverley High Road, Hull, Yorks, England Assessment of low dosage haloperidol in anxiety states. *British Journal of Psychiatry (London)*. 119(549):169-170, 1971.

Treatment with low dosage haloperidol twice daily was compared with a placebo by the double-blind cross-over method in socially active patients presenting with anxiety, which was associated with depression in many cases. Patients taking haloperidol showed a clearly significant improvement compared with those taking placebo, and the drug was particularly effective in relieving anxiety, tension and associated depression. 2 references. (Author abstract modified)

**100791** Pollitt, John; Young, John. St. Thomas' Hospital, London, S.E.1, England Anxiety state or masked depression? A study based on the action of monoamine oxidase inhibitors. *British Journal of Psychiatry* (London). 119(549):143-149, 1971.

The frequency with which symptoms of the depressive functional shift occurred in 101 adults suffering from anxiety states which responded to monoamine oxidase inhibitors and in 147 depressed patients were compared. The symptoms were classified as typical or atypical according to the direction of change in function. The difference in symptomatology between the groups was small. Typical symptoms were commoner among older patients, whereas atypical symptoms were commoner in the younger subjects in both groups. The possibility is discussed that anxiety states responsive to monoamine oxidase inhibitors are a form of depression, and that the different clinical picture is partly determined by chronological age. 19 references. (Author abstract)

**100811** Lackroy, G.H.; van Praag, H.M. Dept. of Biological Psychiatry, Psychiatric Univ. Clinic, Oostersingel 59, Groningen, The Netherlands Lithium salts as sedatives: an investigation into the possible effect of lithium on acute anxiety. *Acta Psychiatrica Scandinavica* (Kobenhavn). 47(2):163-173, 1971.

An investigation into the possible effect of lithium salts on acute anxiety in humans was made. A group of 35 patients were studied, 25 for drug effect with lithium carbonate and 10 controls given a placebo. It was determined that short-term medication with lithium carbonate had no sedative effect on these patients. The methods used to determine degree of anxiety are discussed in detail. 42 references.

**101410** Arfwidsson, L.; Arn, L; Beskow, J.; Ottosson, J.-O.; Persson, G. Department of Psychiatry, University of Umea, Umea, Sweden A comparison between diazepam, dixyrazine, opipramol and placebo in anxiety states. *Acta Psychiatrica Scandinavica* (Supplement) (Kobenhavn). No. 221:19-32, 1971.

A double-blind comparison between opipramol, dixyrazine, diazepam, and placebo was made on randomly assigned groups of outpatients with anxiety tension states. There were 23 patients in the opipramol, dixyrazine, and placebo groups and 26 in the diazepam group. The standard daily doses were 150-200mg opipramol, 30-mg dixyrazine and

12-16mg diazepam. At checks after 2, 4, 8, and 12 weeks the symptoms, signs, level of social functioning, side effects and global effect were rated. Globally rated, diazepam showed the best outcome, placebo the worst, while dixyrazine and opipramol occupied a middle position. However, even in the best group only about half the patients showed a favorable response. Judged from all other ratings diazepam had the best effect, followed by dixyrazine, whereas opipramol was only slightly, if at all, better than placebo. A special feature of diazepam was improvement both subjectively experienced and objectively recorded. Dixyrazine was also experienced favorably by the patients, but the objective judgment was not so good as for diazepam, probably because of more drowsiness. Opipramol was inferior to both diazepam and dixyrazine in antidepressive effect. The side effects were usually mild. Dixyrazine caused an average weight increase during 8 weeks of about 3 kg; about 2 kg may be ascribed to a pharmacological effect. With the doses used diazepam is preferable to dixyrazine and opipramol both with regard to efficiency and side effects, and should be the drug of reference in evaluating new anxiolytic drugs. 23 references. (Author abstract)

**101434** Pare, C.M.B.; Mack, J.W. St. Bartholomew's Hospital, London, England Differentiation of two genetically specific types of depression by the response to antidepressant drugs. *Journal of Medical Genetics*. 8(3):306-308, 1971.

Studies showed that the response to a particular antidepressant drug in a first degree relative who becomes depressed, is similar to that of the depressed proband. However there is no similarity of response when antidepressants of different groups are used. The results support the suggestion that there is more than one biochemical abnormality which may result in depressive illness, and that these are genetically specific. 9 references. (Author abstract)

**101505** Plzak, M.; Soucek, K. Ke Karlovu 11, Prague 2, Czechoslovakia /Possibilities of accelerating the onset of effect of antidepressive pharmacotherapy./ Možnosti urychlení nastupu efektu antidepresivní farmakoterapie. *Ceskoslovenska Psychiatrie* (Praha). 67(1):32-34, 1971.

In the past 2 decades, attempts have been made to speed up the effective onset of antidepressant action by various methods, including combina-

tions of antidepressants with a neuroleptic or tranquilizer, with a diazide diuretic, or use of imipramine in combination with other drugs. Similar combined forms should be sought and evaluated clinically. 8 references.

**101564** Ananth, J.V.; Sanchez, L.; Ban, T.A.; Lehmann, H.E. Douglas Hospital, 6875 LaSalle Boulevard, Verdun, Quebec, Canada. Diazepam: a clinical trial of therapeutic equivalence. *World Journal of Psychosynthesis*. 3(8):37-39, 1971.

In an 8 week, controlled, crossover study with 50 ambulatory, psychoneurotic outpatients, diazepam HL (Hoffman-LaRoche) was compared with diazepam EM (Elliott-Marion). Generally, the findings suggest that both brands of diazepam produced improvement in this total population. Both drugs produced statistically significant improvement on the symptoms of anxiety as tested by the Brief Psychiatric Rating Scale (BPRS) and the Wittenborn Psychiatric Rating Scale (WPRS) and tension (BPRS). However, on the symptom of somatic hysterical (WPRS), diazepam-EM produced statistically significant deterioration. Diazepam-HL produced a higher incidence of adverse reactions per subject (mean: 1.23) than diazepam-EM (mean: 0.72). 4 references. (Author abstract)

**102213** Rickels, Karl; Weise, Charles C.; Whalen, Edward M.; Csanalosi, Irma; Jenkins, B.Wheeler; Stepansky, William. 203 Piersol Building, University Hospital, 3400 Spruce Street, Philadelphia, Pa. 19104 Haloperidol in anxiety. *Journal of Clinical Pharmacology and New Drugs*. 11(6):440-449, 1971.

Haloperidol, although primarily an antipsychotic agent, has been reported to possess antianxiety properties in neurotic outpatients, similar to some other antipsychotic agents such as trifluoperazine and fluphenazine. A double-blind study was conducted to compare haloperidol with chlordiazepoxide and placebo in the symptomatic treatment of anxious neurotic patients coming from a hospital psychiatric clinic, psychiatric practice, and general practice thus sampling a wide range of anxious patients. It was found that haloperidol in a dosage of 2mg/day is a very poor choice for the symptomatic treatment of anxious neurotic patients from all 3 settings. The hypothesis that more anxious patients would do better with the drug than less anxious patients was clearly refuted. In the general practice patient group the placebo was markedly more effective than haloperidol. 10 references.

**102215** Hare, Henry P., Jr. San Antonio, Texas. Comparison of chlordiazepoxide-amitriptyline combination with amitriptyline alone in anxiety-depressive states. *Journal of Clinical Pharmacology and New Drugs*. 11(6):456-460, 1971.

The efficacy of Limbitrol (chlordiazepoxide-amitriptyline) was compared with that of amitriptyline alone in 2 double-blind studies comprised of 20 patients each with psychoneurotic depressive and mixed anxiety depressive reactions treated for 5 to 6 weeks. The results of the study, which were statistically significant, substantiated previous observations by others that many neurotic depressed patients benefit most from combined antidepressant - antianxiety therapy. Side effects were those seen usually with the individual components of the combination and consisted most often of transient drowsiness and dryness of mouth. 8 references. (Author abstract)

**103625** Capstick, Norman. Rehabilitation Unit, Graylingwell Hospital, Chichester, Sussex, England. Chlorimipramine in obsessional states. *Psychosomatics*. 12(5):332-335, 1971.

The use of chlorimipramine for treatment of obsessional states is reported. The study used combined intravenous and oral medication, and the oral drug alone, and progress was noted in changes in the intensity of the obsessions. No deteriorations were found. Most improvements occurred during the first 4 weeks of treatment, but followup studies up to 18 months suggested the need for long-term maintenance dosage in chronic patients. It was concluded that chlorimipramine is useful in the treatment although the precise mode of action is not clear, and that further research is needed to confirm the hypothesis that it has a specific antiobsessional effect. 8 references.

**103626** Rickels, Karl; Laquer, K.George; Rial, William Y.; Rosenfeld, Howard; Schneider, Benjamin; Wagner, Ira G. Private Practice Research Group, Department of Psychiatry, University of Pennsylvania, Philadelphia, Pennsylvania. The combination of protriptyline and oxazepam in depressed neurotic general practice patients. *Psychosomatics*. 12(5):341-348, 1971.

Seventy two general practice outpatients, diagnosed as suffering from mild to moderate depression, were treated with a combination of oxazepam, an antianxiety agent, and protriptyline, an antidepressant agent without tranquilizing properties, in a double-blind placebo-controlled clinical

cal trial of 4 weeks duration. Patients received either a high fixed ratio dosage (oxazepam 30mg/protriptyline 5 or 10mg), a low fixed dosage (oxazepam 15mg/protriptyline 5mg), or placebo, and were told to take 1 capsule twice daily at their first visit, and 3 times daily at 2 weeks. Compared to both low dosage and placebo patients, high dosage patients dropped out of the study more often, reported significantly more side effects and significantly more severe side effects, deviated from dosage more often, and had a lower rate of improvement. The high dosage drug combination was particularly ineffective in the initially more anxious patient, while the low dosage combination tended to be more effective, although seldom significantly so, than both the high dosage combination and placebo regardless of initial psychopathology. It is concluded that the efficacy of the high dosage drug combination is obviated by the degree of its side effects, thus rendering it inappropriate for neurotic depressed patients, and that the low dosage combination should be compared both to placebo and to its constituents in further research. 6 references. (Author abstract)

104143 Rickels, Karl; Lipman, Ronald S.; Park, Lee C.; Covi, Lino; Uhlenhuth, E.H.; Mock, John E. Dept. of Psychiatry, Univ. of Pennsylvania, Philadelphia, Pa. Drug, doctor warmth, and clinic setting in the symptomatic response to minor tranquilizers. *Psychopharmacologia (Berlin)*. 20(2):128-152, 1971.

A double-blind clinical trial, concerned with the importance of the doctor variable for drug treatment outcome, was conducted with 485 anxious neurotic outpatients receiving either chlordiazepoxide, meprobamate, or placebo. The study was conducted at clinics in John Hopkins Hospital, Philadelphia General Hospital, and University of Pennsylvania Hospital. The doctor variable selected for presentation was doctor warmth. Data on the 169 patients completing the 4 week study according to protocol were analyzed using a factorial analysis of covariance procedure, and the main findings were as follows: 1) several main drug effects, present only at 2 weeks, indicated chlordiazepoxide to produce significantly more improvement than either meprobamate or placebo; 2) several main warmth effects, present only at 4 weeks, showed patients rating their physicians at the initial visit as warm to improve significantly more than patients rating their physi-

cians as nonwarm; and 3) several significant drug X clinic interaction effects at 4 weeks reflected the fact that while hardly any drug differences were seen in 2 clinics, at Philadelphia General Hospital, patients strongly favored chlordiazepoxide. Drug and warmth effects were particularly marked in initially sicker patients, and warmth appeared especially important in the improvement of initially sicker placebo patients. 26 references. (Author abstract modified)

105889 Marshall, W.K. Severalls Hospital, Colchester, Essex, England Treatment of obsessional illnesses and phobic anxiety states with clomipramine. *British Journal of Psychiatry (London)*. 119(551):467-468, 1971.

Results are reported in the treatment by clomipramine of obsessional illnesses, phobic anxiety states, and the illnesses which fall between these two. Intravenous administrations of clomipramine were given to 24 patients. Six responded not at all or only in very slight degree, 6 others experienced considerable relief, and the other 12 had complete remission of symptoms. Dosages were gradually reduced with successful results. 7 references.

107593 Haider, Ijaz. 779 Shadwan Colony, Lahore, West Pakistan Evaluation of a new tranquilizer -- WY 4036 -- in the treatment of anxiety. *British Journal of Psychiatry (London)*. 119(553):597-598, 1971.

Fifty patients (30 females and 20 males) suffering from a neurotic anxiety illness or from anxiety associated with depression were treated with WY 4036, a benzodiazepine type drug, or placebo in a double-blind controlled trial. The treatment lasted for 3 weeks. Patients were assessed before the start of the trial at intervals of 1 week, 2 weeks and 3 weeks. After the fourth and final assessment a 4 point global assessment was also made and interpreted as greatly improved, improved, no change, or worse. The analysis of the results shows that the overall distribution of total scores at the pretrial assessment is similar for the 2 drugs but the mean score is better on WY 4036 than on placebo for each week, and this is also true for both inpatients and as well as outpatients and for both sexes. The comparison of the 2 groups regarding their global assessment also shows that WY 4036 is significantly better than placebo. 1 reference. (Author abstract)

107594 Haider, Ijaz. Shadwan Colony, Lahore, West Pakistan A comparative trial of lorazepam and diazepam. *British Journal of Psychiatry (London)*. 119(553):559-600, 1971.

Two drugs, lorazepam and diazepam, were compared in their effectiveness in the treatment of anxiety. In a double-blind study, 50 patients from Whitchurch Hospital and outpatients from Cardiff Royal Infirmary were studied. Patients suffering from anxiety, either alone or associated with depression were included and received either lorazepam 1.0mg, or diazepam 5.0mg 3 times a day: the dose being varied depending on the response. Clinically both drugs appeared to be similarly effective, but there was a suggestion that diazepam was more active on some symptoms at this dosage level. The incidence of side effects with lorazepam was less than with diazepam, significantly so with regard to sedation. A dose of 1.0mg lorazepam appears to be of the same potency as 5.0mg diazepam with fewer sedative side effects. Lorazepam would therefore appear to have a definite place in the treatment of anxiety states in hospital and general practice. 2 references. (Author abstract modified)

108484 Kellner, Robert. Department of Psychiatry, University of New Mexico, Albuquerque, N.M. Part 1. Improvement criteria in drug trials with neurotic patients. *Psychological Medicine (London)*. 1(5):416-425, 1971.

Published drug trials with neurotic patients are surveyed and rating scales and other improvement criteria are tabulated and related to outcome. These findings are compared with the results of studies which were designed to evaluate the effectiveness of various improvement criteria. The principles of the construction of distress scales and the method of testing reliability and validity of scales which purport to measure changes are discussed. (Journal abstract)

108852 Korolenko, Ts.P.; Groshev, S.I.; Kvashnin, V.F. Kafedra psikiatrii Novosibirskogo meditsinskogo instituta, Novosibirsk, USSR /Atropine therapy in obsessive states./ *Lecheniye navyazchivnykh sostoyaniy atropinom. Zhurnal nevropatologii i psikiatrii imeni S.S.Korsakova (Moskva)*. 71(9):1391-1393, 1971.

Favorable results obtained in atropine treatment of obsessive states of different nature in 43 out of 45 patients are discussed. The dosages ranged from 10 to 28mg, which resulted in development

of syndromes of mildly and moderately altered consciousness and delirious episodes. The possible mechanisms of the therapeutic effect of atropine are discussed. An important role is attributed to the psychotherapeutic aspects during treatment. 4 references. (Journal abstract modified)

109845 Gajnd, R.; Watson, J.P.; Marks, I.M. Inst. of Psychiatry, De Crespigny Park, Denmark Hill, London SE5, England Some approaches to the treatment of phobic disorders. *Proceedings of the Royal Society of Medicine (London)*. 64(11):1118-1120, 1971.

The successful treatment of phobic disorders by prolonged exposure to the actual phobic object is described. Patients were treated by flooding in fantasy prior to actual exposure. Physiological responses were recorded during both types of treatment. Modeling was used to facilitate actual exposure. A pilot study of 4 specific phobics treated by intravenous injections of propanidid is also reported. Preliminary work suggests that exposure may be as quick and effective when given in conjunction with intravenous propanidid, and more pleasant. 8 references.

115620 Shader, Richard I. Psychopharmacology Research Laboratory, Harvard Medical School, Boston, MA Drugs in the management of anxiety. In: *Masserman, J., Current psychiatric therapies*. New York, Grune & Stratton, 1971. 224 p. (p.81-85).

A variety of drugs available for the management of anxiety is presented with an evaluation of the author's own preferences, derived from research efforts as well as from clinical experience. Specific mention is made of barbiturates, phenothiazines, propanediols, and benzodiazepines. It is concluded that antianxiety agents will not likely be helpful when used 1) as a substitute for the physician's time and interest, 2) to reduce the doctor's anxiety about his patient, or 3) as a last resort. 13 references.

118969 Okuma, Teruo; Nakao, Takehisa; Ogura, Chikara; Kihimoto, Akira; Majima, Kazuaki. Department of Psychiatry, Tottori University School of Medicine, Yonago, Japan Effect of 7-bromo-5-(2-pyridyl)-3H-1,4-benzodiazepine-2(1H)-one, Bromazepam (RO 5-3350), a new minor tranquilizer, on psychoneurosis with special reference to the obsessive-compulsive symptoms. *Folia*

*Psychiatria et Neurologica Japonica* (Tokyo). 25(3):181-193, 1971.

Benzodiazepine compounds with tranquilizing action have been clinically applied to treat not only various kinds of neuroses, but also endogenous psychosis such as manic-depressive psychosis and schizophrenia. Clinical data show that the effects of bromazepam are characterized principally by its tranquilizing action on anxiety and tension. Bromazepam also shows effectiveness against some refractory neuroses and the obsessive-compulsive neurosis that does not respond to other benzodiazepine derivatives such as chlordiazepoxide and diazepam. The effectiveness of bromazepam in relieving anxiety and tension, in elevating mood, and in some obsessive-compulsive neuroses that showed little response to other benzodiazepines, suggested that bromazepam is a potent and characteristic new minor tranquilizer of clinical value. 6 references.

122939 Sulestrowska, Halina; Szlykiewicz, Jozefa Krystyna. Klinika Chorob Psychicznych AM, ul. Debinki 7, bud. 25, Gdansk 6, Poland /Management and prognosis of so-called anorexia nervosa./ Aspekt leczniczy i prognostyczny tzw. anoreksji nerwowej. *Psychiatria Polska* (Warszawa). 5(5):517-524, 1971.

Findings are extracted from psychiatric and medical literature on the treatment and prognosis of anorexia nervosa, and studies are presented of three anorexic patients who recovered following a course of clinical treatment. It is emphasized that a successful outcome can be obtained in cases of anorexia nervosa through the maintenance of a severe hospital regime imposed upon patients even against their will, through intensive pharmacological therapy (large doses of neuroleptic agents), and through hormonal therapy (subcutaneous insulin doses) with simultaneous persevering psychotherapy and the granting of appropriate advice to the families of patients. 15 references. (Author abstract)

123049 Kaneko, Ziro; Inui, Tadashi; Tanimukai, Hiroshi. Osaka University Medical School, Japan Pharmacotherapy of neurosis -- benzodiazepine. In: *Serenal sogo bunken-shu*. Tokyo, Sankyo Co., 1971. 377 p. (p.17-25).

The significance of pharmacotherapy of neurosis and the effect of benzodiazepine derivatives on neurosis is discussed. Topics include: the effect of pharmacotherapy on removing anxiety

from neurotics; the pharmacological effects of benzodiazepine derivatives on neurosis, including that of chlordiazepoxide, diazepam, nitrazepam, oxazolam, and oxazepam. 18 references.

123050 Sato, Tokijiro; Takeda, Tadaatsu; Watanabe, Shunzo; Ohsawa, Seisho; Hayashi, Susumu. Hirotsuki University, Japan Experience with a new psychotropic drug, oxazolam, in treatment of anxiety neuroses. In: *Serenal sogo bunken-shu*. Tokyo, Sankyo Co., 1971. 377 p. (p.81-86).

The effect of oxazolam on anxiety neurosis is discussed. Oxazolam (30-90mg) was administered to 20 patients with varied types of anxiety neuroses for 7-12 days. The complete relief of anxiety was observed in 20% of the patients and considerable relief was observed in 65% of the patients. Doses of lower than 60mg were free from any severe side effects even for longer periods of administration. In comparison with other psychotropic drugs, a sedative effect on agitation and excitation is rather milder in oxazolam. Patients under oxazolam hardly ever complained of tiredness, sleepiness, somnolence or dullness, as was frequently the case under other psychotropic drugs. The most striking advantages of oxazolam is its action on the total personality without reducing awareness. 7 references. (Author abstract modified)

# 11 DRUG TRIALS IN MISCELLANEOUS DIAGNOSTIC GROUPS

071597 O'Brien, Charles P.; DiGiacomo, Joseph N.; Fahn, Stanley; Schwarz, Gabriel A. Dept. of Psychiatry, Hospital of the University of Pennsylvania, 34th and Spruce Streets, Philadelphia, Pa. 19104 Mental effects of high-dosage levodopa. *Archives of General Psychiatry*. 24(1):61-64, 1971.

A study is presented which attempts to qualify the mental effects of levodopa in a nonblinded clinical trial of the drug of 200 patients receiving levodopa (L-DOPA) therapy the first 20 patients received 4 to 6.5gm of L-DOPA per day. Seven of 12 parkinsonian patients who were also depressed showed a remission of depression during L-DOPA treatment, however this change generally correlated with the degree of motor improvement. In 2 patients the mood elevation was clearly out of proportion to the motor improvement, and one of these developed a hypomanic-like state. A third patient developed agitated behavior after 1 year of L-DOPA therapy. Six of 9 males reported

spontaneous penile erections and resumed successful intercourse after 3 years of impotency. Of 4 patients with organic dementia, 3 showed no detectable improvement but 1 raised his Wechsler Memory Quotient from 59 to 86. 13 references. (journal abstract modified)

**073606** Butterworth, A. T.; Watts, Robert D. East Louisiana State Hospital, Jackson, Louisiana Treatment of hospitalized alcoholics with doxepin and diazepam: a controlled study. *Quarterly Journal of Studies on Alcoholism*. 32:78-81, 1971.

Results of a study using doxepin and diazepam to treat hospitalized alcoholics are reported briefly. The patients were given 25mg of doxepin or 5mg of diazepam 3 times a day for 3 weeks and their anxiety and depression was measured. Greater improvement was shown by the doxepin treated patients. Side effects were a little more prominent in the diazepam group than in the doxepin group, but both drugs were well tolerated. 7 references. (Author abstract modified)

**073607** Boueri-Atem, Salomon; Brahm, Domingo; Curl, Jose O. Department of Infectious Diseases, University of Cuyo, Mendoza, Argentina Oxazepam in allergic conditions. *Psychosomatics*. 12(1):46-48, 1971.

Results are presented from a study of the use of oxazepam for treating the psychic component of several types of allergic disorders. Oxazepam was given in a dosage of 15mg. 3 times a day (adults), 15mg. twice a day (older children), or 7.5mg. twice a day (children under 2). Other medications were administered as required. Complete remission of all symptoms (including asthma, skin lesions, bronchitis, rhinitis, and conjunctivitis) was obtained in 24 patients (about half), and a satisfactory response (both allergic and emotional) was obtained in 36 (73%). Oxazepam appears useful for relieving the anxiety and other nervous symptoms which so often accompany an allergy, sustaining or aggravating it and making the usual antiallergic measures quite ineffective. It sometimes produces mild drowsiness in adults. 19 references. (Author abstract modified)

**074314** Andronic, Alexe; Di Mascio, Alberto. Grafton State Hospital, North Grafton, Massachusetts Appetite-stimulating and weight-gain properties of cyproheptadine (Periactin) in geriatric subjects. *Current Therapeutic Research*. 13(1):40-41, 1971.

The appetite stimulating and weight gain properties of cyproheptadine (Periactin) are tested in a group of 30 healthy but underweight older psychiatric male and female patients. A simple double-blind procedure was used. It was concluded that cyproheptadine in this elderly psychiatric population does not produce any beneficial appetite change or weight gain. Side effects to the drug were not noted. 1 reference.

**077824** Ananth, J. V.; Deutch, M.; Ban, T. A. 6875 LaSalle Boulevard, Verdun, P.Q., Canada Senilex in the treatment of geriatric patients. *Current Therapeutic Research*. 13(5):316-321, 1971.

A study is presented comparing the effects of the combined administration of nicotinic acid and pentetrazol with the effects of either drug alone to geriatric psychiatric patients. A 12 week double-blind clinical study was conducted in 30 such patients between the ages of 65 and 85 consisting of 6 males and 24 females. The drugs were given in capsules containing either 50mg nicotinic acid, 200mg pentetrazol or both to groups of 10 patients. The assessments were based on the Brief Psychiatric Rating Scale (BPRS) of Overall and Gorham and the Verdun Target Symptom Rating Scale (VTSRS) of Lehmann and Ban and included brief physical examinations and some laboratory blood and urine tests. According to both psychiatric ratings, 7 patients improved and 3 deteriorated with combined treatment, 5 patients improved and 5 deteriorated with nicotinic acid, and with pentetrazol, 4 improved and 6 deteriorated assessed by the BPRS and 6 improved and 4 deteriorated by the VTSRS assessment. Adverse reactions included restlessness, anorexia, nausea and vomiting, abnormal liver function and abnormal hematological findings. No statistically significant change was observed in any of the 3 treatment groups. 18 references.

**077911** Barcai, Avner. Dana Division of Child Psychiatry, Hadassah Medical Organization, P.O.B. 499, Jerusalem, Israel Predicting the response of children with learning disabilities and behavior problems to dextroamphetamine sulfate. *Pediatrics*. 47(1):73-80, 1971.

This is a clinical study using a phenomenological, office practice approach to diagnose the hyperkinetic child who responds with improved concentration and organization of his mental facilities to the amphetamines. The combination of anamnestic items, information from the

teacher, and the clinical interview were found to be effective in correctly predicting approximately 85% of behaviorally disturbed children who would respond favorably to the stimulating drugs. The finger twitch test and a list of selected questions, which could be used by the pediatrician in his office, were found to lead to a weighted, noninferential assessment of the child's mental status, as a help in determining the advisability of prescribing the stimulant for some behaviorally disturbed children. 32 references. (author abstract)

**078131 Rudnick, Herman D.** 6606 Castor Avenue, Philadelphia, Pennsylvania 19149 The treatment of psychoneurotic states: a study of thioridazine in an office practice. *Current Therapeutic Research*. 13(5):311, 1971.

Forty five patients took an average daily dosage of 73mg of thioridazine in a study of the effects of this drug on psychoneurotic conditions, particularly anxiety and depression. Evaluations before treatment and at intervals during treatment revealed general improvement in all symptoms with time. The severity of those symptoms specifically associated with psychoneuroses (anxiety, depression, tension) was notably reduced. No side effects occurred and the author concludes that thioridazine is an effective agent for the treatment of psychoneurotic patients. 10 references. (author abstract)

**078942 Ananth, J. V.; Saxena, B. M.; Lehmann, H. E.; Ban, T. A.** 6875 LaSalle Boulevard, Montreal 204, Province of Quebec, Canada Combined administration of thioridazine and nicotinic acid in the treatment of geriatric patients. *Current Therapeutic Research*. 13(3):158-161, 1971.

The efficacy of the combined administration of thioridazine and nicotinic acid is tested in the treatment of geriatric inpatients. It was found, in this 12 week clinical study with 15 geriatric patients, that the combined administration of thioridazine and nicotinic acid showed some beneficial effects in the treatment of geriatric patients. In particular, the symptoms of emotional withdrawal, conceptual disorganization and uncooperativeness (brief psychiatric rating scale (BPRS)) and preoccupation with self (Verdun geriatric rating scale (VGRS)) were favorably influenced. However, there was some deterioration in the symptoms of somatic concern (BPRS), irritability and autonomic reactions (VGRS). It is important to note that numerous (59) adverse

reactions, including 2 cases of severe leukopenia, were observed during the course of the study. 5 references. (Author abstract modified)

**079011 Beber, Charles R.** 1150 Northwest 14th Street, Miami, Florida 33136 Treating anxiety and depression in the elderly: a double blind crossover evaluation of two widely used tranquilizers. *Journal of the Florida Medical Association*. 58(3):35-38, 1971.

In order to determine the effectiveness of 2 widely used psychopharmaceuticals and the possible degree of seriousness of their side effects in the elderly, 63 geriatric patients with anxiety and depression were divided into 2 groups and treated with either perphenazine amitriptyline or chlordiazepoxide hydrochloride for 4 weeks. After a rest period of 1 week with placebo, the drugs were then crossed over for another 4 weeks. The ensuing results indicated that both drugs were effective in anxiety and depression. The perphenazine amitriptyline proved superior in depression where as the chlordiazepoxide hydrochloride demonstrated some advantage in anxiety. However, in relation to side effects the percentage of patients suffering from side effects was greater with the chlordiazepoxide hydrochloride than with the perphenazine amitriptyline combination. (Author abstract)

**085192 Goldman, H.; Lindner, L. A.; Dinitz, S.; Allen, H. E.** Dept. of Psychiatry, The Ohio State University, Columbus, Ohio The single sociopath: physiologic and sociologic characteristics. *Biological Psychiatry*. 3(1):77-83, 1971.

An investigation was made of physiologic and sociologic characteristics of the simple sociopath. In recent years, there has been increasing evidence suggesting that prisoners labeled as sociopaths have unusual sympathetic nervous system functions most readily observable in a peculiar cardiac lability. An experiment was performed at the Ohio Penitentiary involving 19 primary sociopaths, 10 mixed, and 14 nonsociopaths, as defined by clinical, psychometric, and criminal history criteria. This multidisciplinary investigation revealed that the primary sociopaths were not homogeneous with regard to such sociocultural variables as previous antisocial history, family characteristics, psychological profiles, and attitudes. As a result, using the Lykken scale scores as the criterion, the primary sociopaths were divided into two types: hostile and simple. These

types were clearly and significantly different from each other on nearly all of the sociocultural and psychological measures. Most importantly, only the simple (reasonably nonaggressive) sociopaths demonstrated the cardiac lability to epinephrine previously ascribed to sociopaths in general. These findings -- that there are at least 2 different sociopathic types and especially that only the simple exhibit unusual cardiovascular reactivity to epinephrine -- are consistent with other physiologic observations on skin and pupil responses. Both the unusual physiology and behavior of the simple sociopath may be manifestations of a single autonomic defect, reflecting diminished function of catecholamine secreting neurons, including those involved with sensory input. 19 references. (Author abstract modified)

**086593** Wiecek, Zygmunt. *Spital Psychiatryczny, ul. Grunwaldzka 3, Lubliniec /Attempts at treatment with Neuleptil in children in a special institute./* Proby leczenia propericylazyna (Neuleptilem) dzieci w 'domu specjalnym'. *Psychiatria Polska (Gdansk)*. 5(1):61-63, 1971.

This paper is based on a 20 month observation of the action of neuleptil in the treatment of 14 boys ranging in age from 8 to 15 years old, inmates of a special institute. The patients were severely mentally retarded, suffering from epilepsy, erethic, and with a high degree of character disorders. Other neuroleptic drugs used so far had been of no effect. Neuleptil was administered in daily doses of 30mg. Total improvement of behavior was attained in 10 cases; one of the children improved only after increase of the daily dosage to 60mg. Three children showed no improvement. Neuleptil was found not to decrease the frequency of epileptic seizures. The drug had no side-effects. The symptoms observed prior to treatment reappeared, however, as soon as the drug was withdrawn. 4 references. (author abstract)

**086893** Gallant, D. M.; Bishop, M. P.; Guerrero-Figueroa, R. Tulane University Department of Psychiatry, New Orleans, Louisiana CL-67,772: a preliminary evaluation of a potential antidepressant compound: animal and human correlations. *Current Therapeutic Research*. 13(6):364-368, 1971.

Both the neurophysiologic animal and clinical human data of Cl-67772 indicate that this compound does possess antidepressant properties. However, the inconvenient side-effects of dif-

ficulty in initiating urination and maintaining a constant flow of urine, and insomnia, might outweigh the therapeutic advantages of this compound. A well controlled double-blind evaluation of Cl-67772 versus placebo should answer this question. It would not be surprising to find that a double-blind evaluation of Cl-67772 would reveal that the urinary difficulties in this study were due to a negative suggestion or 'adverse placebo effects', as such symptoms can be associated with placebo. 5 references. (author abstract)

**086895** Deutsch, Mina; Ananth, J. V.; Ban, T. A. Douglas Hospital, Verdun, Quebec, Canada A clinical study with propericiazine in chronic psychotic patients. *Current Therapeutic Research*. 13(6):353-358, 1971.

In this controlled comparative study neither the investigational substance propericiazine nor the standard medication thioridazine produced significant improvement. In this context, it is likely that the dosage of either of the drugs used was insufficient to produce improvement. These patients, in fact, were receiving a daily average dose of 550 phenothiazine units. Thus it is likely that our population needed 550mg of thioridazine and a dose of propericiazine equivalent to 550 phenothiazine units, on an average. However, the precise dosage equivalence of propericiazine is not known: 20 to 60mg per day is generally assumed to be the therapeutic dose, but this was not borne out in the present sample. More interesting is the fact that in our study, both thioridazine and propericiazine produced statistically significant worsening on the items of conceptual disorganization and unusual thought content, pointing further toward the employment of insufficient doses in this study. Even though pilot studies and uncontrolled studies have substantiated the antipsychotic potential of propericiazine, there is need for further work to prove its area of usefulness, the appropriate antipsychotic dosage, and its equivalence with other drugs. 16 references. (author abstract)

**086993** Partington, M. W.; MacDonald, M. R. A.; Tu, J. B. Department of Paediatrics, Queen's University, Kingston, Ontario, Canada 5-Hydroxytryptophan (5-HTP) in Down's syndrome. *Developmental Medicine and Child Neurology (London)*. 13(3):362-372, 1971.

A short controlled trial of the effects of 5-hydroxytryptophan on the motor behavior and

neurological status of retarded children with and without Down's syndrome was carried out: no effects could be demonstrated. No changes were found in the levels of total 5-hydroxyindoles and 5-hydroxyindole acetic acid in CSF. There were slight and probably insignificant changes in whole blood serotonin levels, but marked increases in the levels of total 5-hydroxyindoles in whole blood and in the urinary excretion of 5-hydroxyindole acetic acid. 14 references. (author abstract)

087191 Svestka, J.; Nahunek, K.; Rodova, A. Jihlavska 102, Brno-Bohunice, Czechoslovakia /Prophylactic dispensation of lithium carbonate in affective psychoses./ Profylaktické podávání uhličitanu lithného u afektivních psychóz. 67(2):79-86, 1971. Československá Psychiatrie (Praha).

Prophylactic effect of lithium carbonate was studied for 646 days in 59 patients with manic-depressive or schizoaffective psychosis or periodic or involutional depression and compared with equally long previous periods of the disorder. Statistically significant decreases in frequency and duration of phases, frequency and length of admissions were seen after lithium therapy. Positive prophylactic effect i.e. disappearance of further phases or a decrease in frequency of phases in affective psychoses after lithium therapy was achieved in 52.2% of all treated patients. In lithium resistant patients further daily increases of the lithium dose did not have any positive effect. Between the group of lithium resistant and lithium sensitive patients no significant difference was found either in their age, period of lithium dispensation, average lithium level in serum, actual average duration of affective psychosis, number of phases before the onset of lithium therapy, average duration of phases preceding therapy, or number of hospital admissions and average length of admission before the therapy. No difference was found in prophylactic response to lithium either in bipolar or monopolar, typical or atypical forms. 27 references. (author abstract modified)

087475 Gessner, Peter K. Buffalo, New York Diphenylhydantoin and alcohol withdrawal. *Journal of the American Medical Association*. 216(5):887, 1971.

The use of diphenylhydantoin in treatment of alcohol withdrawal as reported by Finer in an earlier article is discussed. A suggestion is made that only sedative hypnotic drugs can be effective in alcohol withdrawal since other drugs only mask

the symptoms without controlling the seizures, hallucinations and hyperthermia. Since diphenylhydantoin is not a sedative hypnotic and has a shorter half life in vivo, it does not seem suitable for alcohol withdrawal treatment. It is suggested that further studies be performed with diphenylhydantoin since the drug did not control seizures in animals. 11 references.

088387 Goodwin, Frederick K. Clinical Research Unit, Section on Psychiatry, Laboratory of Clinical Science, NIMH, Bethesda, Maryland 20014 Behavioral effects of L-dopa in man (Unpublished paper). Bethesda, Maryland, NIMH, 1971. 26 p.

The behavioral effects of L-DOPA in parkinsonian patients and the experimental use of this catecholamine precursor in depressed patients are reviewed. A variety of mental changes are seen in parkinsonian patients including confusional states, psychosis, depression, agitation, and hypomania. Overall these side effects occur in about 20% of the cases, although there is considerable variability from one series to the next. Some cases seem to represent an activation of preexisting psychopathology while others do not. Large doses of L-DOPA were generally ineffective as a treatment for depression, although a small subgroup of retarded patients did improve. Depressed patients with a prior history of mania uniformly experienced hypomanic episodes on L-DOPA; this occurred without a corresponding decrease in depression. 80 references. (Author abstract)

088693 Binder, S.; Roters, G.; Schultka, H. Landesheilanstalt Rottland, Westfälisches Landeskrankenhaus, Hauptstrasse 19, BRD-4771 Eickelborn, Germany /Clinical and experimental psychological investigations of the effect of antiandrogen cyproterone acetate in slightly irresponsible and grossly irresponsible sexual delinquents./ Klinische und experimentell-psychologische Untersuchungen zur Wirkung des Antiandrogens Cyproteronacetat bei erheblich vermindert zurechnungsfähigen und zurechnungsunfähigen Sexualdelinquenten. *Nervenarzt (Berlin)*. 42(1):26-32, 1971.

A study is presented of 36 sexual delinquents, varying from slightly irresponsible to grossly irresponsible subjects, treated with antiandrogen cyproterone acetate for a period of 4 months. The efficacy of the preparation is demonstrated by means of sexual diagnostic tests, clinical observation and questionnaires. Changes in sexual activity and sexual stimulation levels can be shown.

The reversibility of sexual dynamics after the medication is withdrawn is additional proof of its efficacy. Side-effects are reported as minimal. 36 references. (author abstract modified)

089150 Siggelkow, H.; Blochs, Vera; Birke, S.; Kittmann, H. Geriatrie Klinik des Stadtlichen Klinikum, 1 Zepernick Strasse, 1115 Berlin-Buch, Germany /The clinical testing of 'Geriatrika': a clinical study./ Zur klinischen Prufung von 'Geriatrika': eine klinische Studie. *Zeitschrift fur Alternsforschung (Dresden)*. 24(1):51-61, 1971.

The pharmacological effect of drugs in geriatric patients is difficult to assess due to the many factors in the aging process which are not possible to correct. A clinical study in 60 geriatric patients on the effect of 'Geriatrium', a combination of magnesium orotate (200mg) and caffeine (50mg), is presented as an illustration for the testing of the elderly. Along with the routine clinical examination before and after therapy which included the general physical examination, determination of osmotic resistance of erythrocytes, capillary fragility, prothrombin, EKG, glucose tolerance, cholesterol and cholesterol ester were obtained. A rating scale was established for vegetative dysfunction and psychiatric testing was done before the testing period, 60, and 90 days after the initiation of clinical testing. Neither the physical nor paraclinical observations revealed any significant changes due to the medication. A 72.3% improvement in vegetative function was found and the analysis showed an independence of the age factor. Determination of performance was obtained by the Duker and Benton tests according to which an improvement was seen generally; the tests included visual perception, also independent of the age factor. Correlation coefficients of the 2 psychiatric tests with age are shown. 62 references.

089216 Husslein, H. Universitäts Frauenklinik, 23 Spitalgasse, A-1090 Vienna 9, Austria /Hormone therapy during the climacterium./ Hormontherapie im Klimakterium. *Wiener Medizinische Wochenschrift (Wien)*. 121(12):211-216, 1971.

To understand the climacteric vegetative syndrome properly, the endocrine, vegetative, and psychic systems must be taken into account. Changes in the endocrine system begin with the production of follicular hormone in the ovary, and the decreased estrogen content leads to an out-

pouring of gonadotropin, which the altered ovary can no longer handle. Repercussions of this imbalance affects other organs (pituitary, midbrain). However, the climacterium is not solely due to an ovary which no longer functions, but may also be a result of decreased impulses from the sexual center in the tuber cinereum striking the ovary. The situation during the climacterium is that of constantly changing processes of stress and compensation in the vegetative system. Changes in mood and drive, and occasionally in personality accompany most of the changes during the climacterium. Some of the more serious developments due to the personality changes may lead to psychoses and this situation is attributed to (in women) loss of procreative ability, loss of sexual attraction, and anxiety. The effect of estrogen therapy is considered beneficial but it must be borne in mind that it treats the symptoms only from the somatic viewpoint. As a prophylactic measure it is also recommended.

089302 Wojdyslawska, Irena; Zaborowski, Andrzej. Klinika Psychiatryczna AM, ul Aleksandrowska 159, Lodz /The efficacy of mezoridazine (Lidanil) in psychoneuroses and somatic illnesses./ Działanie mezorydazyny (Lidanilu) w psychonerozach i chorobach somatycznych. *Psychiatria Polska (Gdansk)*. 5(2):193-196, 1971.

Lidanil (mezoridazine, NC-123) by Sandoz was administered to 34 patients with vegetative and psychosomatic disorders. The drug was used in daily doses of 19 to 30mg over 11 to 120 days. Improvement was attained in 31 cases. The drug was found to act rapidly, i.e. within a few days, rarely within more than 10 days. The patients became markedly more accessible to psychotherapy; this made them change their inappropriate attitude towards their illness prior to remission, and helped anxiety and hypochondriac fears to remit. Outpatients, especially working or studying individuals, emphasized the fact that the drug had not caused nausea on fatigue, and had diminished activity only in the first 2 to 4 days of treatment. No side effects or changes were noted in additional examinations. The drug must be used with caution in individuals driving mechanical vehicles. 9 references. (author abstract)

089307 Dragon, Pawel. ul. Gliwicka 33, Rybnik /Efficacy of intravenously used promazine in acute psychomotor agitation./ Skuteczność dożylnego stosowania promazyny w ostrym podnieceniu

psychoruchowym. *Psychiatria Polska (Gdansk)*. 5(2):211-215, 1971.

Promazine was used intravenously over a period of one year in 185 agitated women patients and was found to be a safe and efficacious drug, although not in all cases. The best therapeutic effects were obtained by dysphoric states in oligophrenic women patients with exogenous reactive psychoses. Intravenous promazine was less effective in manic states in the course of cyclophrenia, in obnubilatory states in epileptic patients, and in senile psychoses. No therapeutic effects were obtained in chronic schizophrenia; there even occurred paradoxical effects in patients previously treated with insulin and electroconvulsant therapy. Side effects observed during intravenous use of promazine were 3 cases of collapse in female patients aged over 60 years old; the symptoms remitted after cessation of the drug. It was also found that the doses of intravenous promazine required to obtain good therapeutic effects were lower in patients previously treated with levomepromazine than in other patients. 15 references. (author abstract)

089849 Davis, John M.; Termini, Benedict A. Laboratory of Clinical Science, National Institute of Mental Health, Bethesda, Md. Drug treatment of hospitalized psychiatric patients. In: Abrams, G., *The New Hospital Psychiatry*. New York, Academic Press, 1971. 298 p. (p. 199-236).

Drug treatment of hospitalized psychiatric patients is assessed. The clinical efficacy, dosage, effects, maintenance therapy, toxicity and side effects of the drugs used in treatment of psychiatric illness are reviewed. The drugs are: 1) the major tranquilizers including the phenothiazine derivatives, thioxanthenes and butyrophenones which are primarily for schizophrenics, 2) antidepressant drugs including tricyclic antidepressants (imipramine type drugs) and monoamine oxidase (MAO) inhibitors, psychomotor stimulants, and electric shock treatment (ECT), 3) lithium for treatment of mania, and 4) minor tranquilizers such as meprobamate, chlordiazepoxide, diazepam, oxazepam and tybamate which are mostly for outpatient use. 55 references.

090725 Lubetkin, Barry S.; Rivers, P. Clayton; Rosenberg, Chaim M. Department of Psychology, State University of New York at Stony Brook, Stony Brook, New York Difficulties of disulfiram therapy with alcoholics. *Quarterly Journal of Studies on Alcohol*. 32(1):168-171, 1971.

Difficulties in recruiting alcoholic patients for participation in a disulfiram treatment program are discussed. In spite of a large number of personal patient contacts, broad publicity, and the offer of monetary rewards, patients at a state detoxification center were disinclined to become involved in outpatient disulfiram treatment. Suggested reasons are that anxious patients circulated frightening rumors about the drug and may have felt that they were being treated as guinea pigs. Recommendations include an inpatient educational program and the use of one specific program coordinator. 3 references.

092573 Ritvo, Edward R.; Yuwiler, Arthur; Geller, Edward; Kales, Anthony; Rashkis, Shirley; Schlicor, Aric; Plotkin, Selma; Axelrod, Robert; Howard, Carla. Neuropsychiatric Institute, UCLA Center for the Health Sciences, Los Angeles, California 90024 Effects of L-dopa in autism. *Journal of Autism and Childhood Schizophrenia*. 1(2):190-205, 1971.

A study was designed to determine if blood serotonin concentrations could be lowered in autistic children by the administration of L-dopa and, if so, to observe possible clinical or physiological changes. Following a 17 day placebo period, 4 hospitalized autistic boys (3,4,9, and 13 years of age) received L-dopa for 6 months. Results indicated a significant increase in platelet counts in the youngest patient, and a similar trend in others. Urinary excretion of 5HIAA decreased significantly in the 4 year old patient and a similar trend was noted in others. No changes were observed in the clinical course of the disorder, the amount of motility disturbances (hand flapping), percent of REM sleep time, or in measures of endocrine function (FSH and LH). Possible mechanisms by which L-dopa lowered blood serotonin concentrations, increased platelet counts, and yet failed to produce other changes are discussed. 25 references. (Author abstract)

092743 Buchsbaum, Monte; Goodwin, Frederick; Murphy, Dennis; Borge, George. Laboratory of Psychology, National Institute of Mental Health, Bethesda, Maryland 20014 AER in affective disorders. *American Journal of Psychiatry*. 128(1):51-57, 1971.

The average evoked response (AER) to 4 intensities of light was measured for 2 groups of patients with affective disorders: a bipolar group, whose histories included episodes of both mania and depression, and a unipolar group, whose

histories included depression only. Bipolar patients, whether depressed or manic, showed relatively greater rates of increase of AER amplitude (augmentation) with increasing stimulus intensity than did unipolar patients, who often showed decrease in AER amplitude (reduction). Lithium treatment appeared to lessen the tendency toward augmentation, especially in bipolar patients. 21 references. (Author abstract)

093701 Soulaïrac, A.; Chavannes, Nicole; Geier, S.; Baron, J.-B. Centre Psychiatrique Sainte-Anne, Paris, France /Clinical study of piribedil with syndromes of intellectual deterioration in amnesia./ Etude clinique du Piribedil dans les syndromes de détérioration intellectuelle avec amnésie. *Annales Medico Psychologiques (Paris)*. 1(4):574-580, 1971.

A study of the effects of Piribedil on 21 patients suffering from intellectual deterioration with significant memory problems is presented. Favorable results were obtained in 2 tiers of cases treated with Piribedil. Subjects were chosen with intellectual deterioration on which direct influence of vascularization or cerebral metabolism could be eliminated with reasonable certainty. This category included patients who suffered from a classical vesanic dementia as a result of a prolonged evolution of chronic hallucinatory psychosis. The ameliorative effects of Piribedil were especially noticeable on memory and, to a lesser degree, on tests involving complex figures (Rey and Benton) and on postural reactions. In all improved cases important modifications of the electroencephalogram became normalized between the thirtieth and sixtieth days of treatment. There seems to be a sufficiently positive correlation between electroencephalographic variations and modalities of the therapeutic activity of Piribedil.

093774 Droller, H.; Bevans, H. G.; Jayaram, V. K. Leeds (St. James's) University Hospital, Leeds 9, England Problems of a drug trial (Pemoline) on geriatric patients. *Gerontologia Clinica (Basel)*. 13(5):269-276, 1971.

A drug trial with Pemoline, a drug considered a possible memory enhancer, is discussed as an example of how such trials should be conducted with old persons as subjects. Twenty two elderly women participated in a double-blind trial, with crossover after 8 weeks. Duplication of the testing procedure on a comparable group not receiving the drug or placebo was carried out. The results showed no statistical advantage of drug over

placebo. Other clinical trials with Pemoline involving younger subjects are described briefly. 22 references.

093791 Oge, Verdad. University of Missouri, Columbia, Missouri Drug therapy in alcoholism. *Illinois Medical Journal*. 139(6):606-610, 1971.

An article suggests that the most successful way to treat alcoholics is the multidisciplinary approach. Drug therapy is the most important part of the total treatment method; it is particularly important for treatment of acute intoxication and withdrawal and also for prevention of seizures, DTs, Wernicke's Encephalopathy, and polyneuritis. The patient's disturbed behavior, psychomotor agitation, and depression are controlled with minimum sedation, and he becomes eligible for individual and group therapy. 12 references. (journal abstract modified)

093796 Zadok, Robert. author address not given Increased sexual desire at the menopause: a myth exploded. *World Medicine (London)*. 6(16):25-26, 31, 1971.

The degree of sexual desire experienced by women during menopause was the subject of discussion at the Third International Congress of Psychosomatic Medicine in Obstetrics and Gynecology. The belief that sexual desire is intensified during change of life does not appear to be valid, according to papers presented. Climacteric symptoms, and the use of drugs and hormones, were discussed: major conclusions of the meeting are summarized in the article.

095540 Cole, Jonathan O. Boston State Hospital, Boston, Massachusetts Methods for evaluating drug efficacy in geriatric-psychiatric disorders. In: Levine, J., *Principles and problems of psychotropic agents*. Washington, U.S. Government Printing Office, 1971. 392 p. (p. 163-173).

Methods for evaluating drug efficacy in geriatric psychiatric disorders are discussed. There are a variety of special problems which arise in connection with drug evaluation in geriatric psychiatric conditions: the nature of the drug, the nature of the clinical conditions to be treated, the effects of the setting, the complicating effects of age and its association with serious somatic diseases, the problems of testing and evaluating elderly impaired individuals, and special problems imposed by the settings in which the geriatric psychiatric conditions are found.

Durg evaluation in geriatric psychiatry is highly likely to involve a medically ill, socially withdrawn, psychologically untestable, physically and sensorially handicapped, severely institutionalized population with permanently damaged central nervous system, who have limited ability to describe the subjective states of their symptoms and whose behavioral repertoire is severely limited. Better testing procedures need to be developed for this special population group, and significantly more attention must be given to contaminating medical disease and to drug dosage and drug side effects. The broader range of drugs potentially useful in this population also indicates that a wider knowledge of clinical pharmacology and a greater involvement of internal medical skills in geriatric psychiatric drug studies is indicated. 9 references. (Author abstract modified)

095541 DiMascio, Alberto. Department of Mental Health, Commonwealth of Massachusetts, Boston, Massachusetts Psychopharmacology in children: problem areas, methodological considerations, and assessment techniques. In: Levine, J., *Principles and problems of psychotropic agents*. Washington, U.S. Government Printing Office, 1971. 392 p. (p. 175-186).

Problems involved in psychopharmacology in children, including methodological considerations in evaluating drug efficacy, are discussed. A dearth of information on the use of psychotropic drugs in children, coupled with the inadequacies of the existing data, has resulted in a field in which only a few psychotropic drugs have been assessed in any extensive numbers of patients; in which the adverse or toxic reactions have been poorly and unsystematically documented; in which the efficacy of the drugs has rarely been documented by objective means or on standardized quantitative rating scales; in which no systematic knowledge exists of the necessity for maintenance therapy (long or short-term); in which little data are available on the neurological, biochemical, or metabolic cost of psychotropic drug therapy; in which patient factors such as diagnostic homogeneity, severity of illness, chronicity of illness, age or maturational level, and sex have been largely ignored; and in which, because of these factors, little is known of differential drug symptom response activity. This sad state of affairs exists because of a number of logical, clinical, ethical, theoretical, pragmatic, and legal issues that produce a multiplicity of

problems. 27 references. (Author abstract modified)

095543 Kaim, Samuel C. Department of Medicine and Surgery, Veterans Administration Hospital, Washington, D.C. Suggestions for drug studies in alcoholism. In: Levine, J., *Principles and problems of psychotropic agents*. Washington, U.S. Government Printing Office, 1971. 392 p. (p. 205-215).

Issues in drug studies in the separate categories of alcoholic states are discussed. Methodological considerations for acute intoxications, nutritional deficiencies, somatic complications, withdrawal states, and chronic alcoholism are explored. The last 2 are discussed in detail since they are the areas in which drug studies might be pertinent and worthwhile. Four classes of drugs are considered in the treatment of chronic alcoholism: deterrent drugs; maintenance or substitutive drugs; drugs for the underlying psychiatric condition; and the experimental use of psychedelic drugs. 15 references.

095622 Jorgensen, P. B.; Bergin, J. D.; Haas, L.; Cunningham, J. A. K.; Morah, D. D.; Pollock, M.; Robinson, R. G.; Spears, G. F. S. Medical Research Council of New Zealand, University of Otago, Dunedin, New Zealand Controlled trial of amantadine hydrochloride in Parkinson's disease. *New Zealand Medical Journal (Dunedin, New Zealand)*. 73(468):263-267, 1971.

The effectiveness of amantadine hydrochloride in 149 parkinsonian patients was assessed in a multicenter double-blind trial. Objective evidence of improvement was seen in 56% of the patients. The more severely affected patients showed greater response. Amantadine resulted in a low incidence of significant side effects but the abrupt withdrawal of the drug occasionally resulted in marked clinical deterioration. 15 references. (author abstract)

096021 Tsuang, Min-Min; Lu, Leigh Min; Stot-sky, Bernard A.; Cole, Jonathan O. Boston State Hospital, 591 Morton Street, Boston, Mass. 02124 Haloperidol versus thioridazine for hospitalized psychogeriatric patients: double-blind study. *Journal of the American Geriatrics Society*. 19(7):593-600, 1971.

A 12 week double-blind study was started with 60 actively psychotic geriatric patients residing in Boston State Hospital, to compare the psychopharmacological efficacy of haloperidol

with that of thioridazine. The dosage was flexible -a an initial low dosage followed by gradual increments until a satisfactory therapeutic response was obtained. The rating instruments used were the Brief Psychiatric Rating Scale (BPRS), Stotsky Mental Status, Clinical Global Impression, NOSIE-30 (Nurse's Observation Scale), and Activities of Daily Living. At the end of the study, 50 patients were available for analysis. Results indicated significant decreases in many areas of psychotic psychopathology for both drug groups, without significant differences between the actions of the 2 drugs. For both haloperidol and thioridazine, significant improvement occurred in the following variables on the BPRS and the NOSIE-30: anxiety, excitement, irritability, hostility, suspiciousness, hallucinatory behavior, mannerisms, tension, unusual thoughts, blunted affect, neatness, and manifest psychosis. Side effects, with the low dosages used, were not common, and were surprisingly similar for the 2 drugs. 10 references. (journal abstract modified)

097378 Klett, C. James; Hollister, Leo E.; Caffey, Eugene M., Jr.; Kaim, Samuel C. Central NP Research Laboratory, Veterans Administration Hospital, Perry Point, Maryland 21902 Evaluating changes in symptoms during acute alcoholic withdrawal. *Archives of General Psychiatry*. 24(2):174-178, 1971.

Changes in symptoms during acute alcohol withdrawal are evaluated in a study comparing the effectiveness of several drugs in reducing or preventing symptoms, the major ones being convulsions and delirium tremens. In the study, male patients experiencing the symptoms of acute alcohol withdrawal were assigned at random to double-blind treatment with chlordiazepoxide, chlorpromazine, hydroxyzine, thiamine, or placebo for a period of 10 days. They were rated 3 times daily by nursing personnel using a nurses' rating scale and were asked to complete a mood scale daily. Patients generally showed a rapid improvement in different symptom areas regardless of the group to which they had been assigned. Treatment comparisons suggested that fewer symptoms were associated with placebo and thiamine treatment than with the 3 psychoactive drugs. However, the greater incidence of convulsions and delirium occurring in these 2 groups as compared with the chlordiazepoxide group more than offset any advantage that may exist for what is essentially supportive treatment. 2 references. (Author abstract modified)

097798 Deniker, P.; Peron-Magnan, P.; Guillou, C. Ellet-Le.; Hanus, M. Clinique des Maladies Mentales de l'Encephale, Centre Psychiatrique Ste-Anne, 1, rue Cabanis, 75 Paris 14, France /Clinical trials of a genuine anti-depressive amphetamine: the d-1-para-chloro-N-methylamphetamine./ *Essais cliniques d'une amphetamine anti-depressive originale, la d-1-para-chloro-N-methylamphetamine ou Ro 4 6861. Therapie (Paris)*. 26(1):219-226, 1971.

Pharmacologically the d-1-para-chloro-N-methyl amphetamine behaves as a genuine amphetamine, but it displays a singular biochemical action. It determines a decrease of cerebral serotonin levels without simultaneous decrease of noradrenaline. From the clinical viewpoint, an 18 month survey performed on a group of 31 male hospitalized adults has demonstrated a stimulating action, but also, a truly thymoanaleptic effect. This effect, although inconstant, is very clear in melancholic reactions, not cured by other antidepressive compounds. Tolerance is good which is unusual for an amphetamine like compound. Although a recurrence of anxiety and a tremor have been observed, in few patients, no cardiovascular side effects have been evidenced. Moreover, sleep and appetite are not disturbed but are frequently enhanced. 9 references. (Journal abstract modified)

098143 Mackie, Lewis. Oldmeldrum, Aberdeenshire, Scotland Drug antagonism. *British Medical Journal*. 5762(2):651, 1971.

Case histories of antagonism between L-dopa and chlordiazepoxide in patients treated for Parkinsonism are reported. The possibility that many failed L-dopa cases may be due to this antagonism is raised. In one case, when chlordiazepoxide was prescribed for a patient doing well with L-Dopa, she regressed to her pre-L-Dopa condition. Thirty six hours after the chlordiazepoxide was stopped she regained her previous, improved state.

098451 Friederichs, P. Landesalters-und Pflegeheim, 6501 Heidesheim, Bingerstrasse 46, Federal Republic of Germany /Report on the use of a new geriatric drug in a home for the aged and nursing home./ *Bericht über die Verwendung eines neuen Geriatrikums in einem Alters-und Pflegeheim. Therapie der Gegenwart (München)*. 110(6):879-880, 883, 1971.

A new geriatric agent, H3-QUAM, was tested in 30 patients aged 50 to 90 in a nursing home

situation. The drug consists of 100mg dimethylaminoethanolbitartrate, 56mg procaine, HCl, 50mg pentamethylenetetrazol, 30mg fresh liver extract, 5mg heart muscle extract, 5mg Vitamin E, 2000 IU Vitamin A. Nineteen of the patients suffered from psychopathological changes connected with diffuse brain damage; 8 patients had affective disorders; 2 healthy persons served as controls. All patients continued to receive their usual medication (laxatives, neuroleptics, analgetics, glycosides, while receiving the new drug twice daily for a period of 8 weeks. The following points were evaluated: sleep disturbances, fatigueability, headaches, vertigo in position change, affective and concentration disturbances, interpersonal contracts, pulse frequency and blood pressure. There was a definite revitalizing action. Of the 30 patients studied, 23 showed improvement generally, and 10 were more active in overall behavior. Increased joy in life, increased alertness, more openness and interest in immediate environment were characteristic improvements. Normalization of both hypertonic and hypotonic conditions was observed in 5 patients. The drug is indicated as a basic therapeutic agent in geriatric practice particularly if it can be administered early enough and continuously.

098507 Saxena, B. M.; Lehmann, H. E.; Ban, T. A. Division of Psychopharmacology, Douglas Hospital, 6875 Lasalle Blvd., Verdun, Quebec, Canada. A systematic clinical study with nicotinic acid, thioridazine, fluoxymesterone and their combinations in hospitalized geriatric patients: therapeutic results and changes in psychometric test performance. *World Journal of Psychosynthesis*. 3(5):43-49, 1971.

A comprehensive clinical trial with 120 geriatric inpatients was conducted to test the efficacy of the 3 psychoactive medicines which had been found to be most useful in previous clinical trials, thioridazine (T), nicotinic acid (N), and fluoxymesterone (F) alone and in combination with each other. The therapeutic effects of each of the treatment regimes were evaluated on the basis of psychiatric rating scales and psychometric performances. In the total population, significant relationships between clinical diagnosis and test performance on critical flicker fusion frequency (CFF), digits span backward and ideational recall (IRCL) were found. This was to the effect that patients diagnosed as paranoids had a relatively

higher score on these 3 functions. Further analysis did not reveal any statistically significant relationships between changes in psychometric test performances and therapeutic outcome under the 8 different treatment regimes. Nevertheless, there was a trend toward decrease of tapping speed and increase of reaction time and IRCL in patients who were therapeutically responsive to the combination N + T; and there was also a trend toward decrease of CFF in patients who were therapeutically responsive to the nicotinic N + F combination. 7 references. (Author abstract modified)

098562 Schulz, Eberhard; Weidtmann, Wilfried; Breidt, Reinhold. Neurologisches und Hirnverletztenversorgungskrankenhaus, Auf dem Sand 1-3, 74 Tubingen, Germany /On the effect of Tebonin in post-traumatic brain injuries./ Zur Wirkung von Tebonin bei posttraumatischen Hirnschaden. *Therapie der Gegenwart (Munchen)*. 110(7):1006, 1009, 1010, 1012, 1014-1016, 1019-1021, 1971.

Tebonin, an angio activator derived from ginkgo biloba, was tested in 41 patients with traumatic brain damage. Some received 2ml Tebonin intramuscularly for 2 weeks followed by tablets twice daily. Others received the drug in the tablet form for 4 weeks. Whenever possible other medication was suspended. Average age of the patients was 48 years. Neuropsychiatric, EEG and psychological testing was done 1 day before treatment with Tebonin and 4 weeks later. Neuropsychiatric examination involved questioning the patient about headaches, vertigo, memory, sleep, irritability and observing the patient for mood, drive, excitability and memory capacity. Of the 41 patients 31 showed neuropsychiatric improvement after treatment. EEG studies showed a tendency towards normalization of pathological findings. Psychological testing showed a generally marked improvement in ability to adjust, concentrate, psychic tempo and vocalization as well as a slightly better attention and memory span. The drug favorably effects changes in post-traumatic conditions. It was noted that brain damaged patients (victims of World War II or accidents) are an extremely difficult, heterogenous group to assess. Paradoxical behavior, incredulity and motivation for increasing insurance compensation pose evaluation problems. 17 references.

098611 Leckman, J.; Ananth, J. V.; Ban, T. A.; Lehmann, H. E. Douglas Hospital, 6875 Lasalle Blvd., Verdun, Quebec, Canada Pentylene-tetrazol in the treatment of geriatric patients with disturbed memory function. *Journal of Clinical Pharmacology and New Drugs*. 11(4):301-303, 1971.

Pentylene-tetrazol produced significant improvement in the symptom areas of unusual thought content, irritability, consciousness alteration and autonomic reaction in a 4 week clinical double-blind trial. There was also a trend toward improvement in psychometric test (memory) performance under the investigational drug. During the same period, placebo administration was associated with significant deterioration in the symptom areas of grandiosity, preoccupation with self, and consciousness alteration, and with a trend toward worsening in psychometric test performance. Nine of the 10 patients on pentylene-tetrazol lost weight. 11 references. (Author abstract modified)

099158 Waller, J. J. 1525 W. 18th Street, Houston, Texas Treatment of emotional symptoms and insomnia with Plexonal. *Current Therapeutic Research*. 13(7):457-462, 1971.

Results are reported from a study of the usefulness of Plexonal, a barbiturate combination, in treating emotional symptoms and insomnia. The major ingredients of this compound are: sodium isobutylallyl barbiturate, sodium phenylethylbarbiturate, sodium diethylbarbiturate, scopolamine hydrobromide, and dihydroergotamine methanesulfonate. Results obtained with Plexonal were equally good in patients with either organic or functional illness. Four out of 5 patients in each group achieved excellent to good results with treatment. Plexonal helped patients with functional complaints to relax and control their emotionally changed feeling toward routine daily matters, thereby giving them a greater efficiency in handling their tasks. Patients with organic illness benefited from the predictable effects of Plexonal which produced adequate relaxation to protect them against emotional upset during the daytime. This effect was especially beneficial to patients with hypertension, cardiac conditions, and gastric ulcer. At night, Plexonal was an excellent hypnotic in that patients slept well and awoke without a drug hangover. In view of its relative inexpensiveness, effectiveness, safety, and versatility, Plexonal would seem to have a place in the therapeutic armamentarium. 4 references. (Author abstract modified)

099818 Saraf, Kishore; Klein, Donald F. Research Dept., Hillside Hospital, 75-59 263rd St., Glen Oaks, N.Y. 11004 The safety of a single daily dose schedule for imipramine. *American Journal of Psychiatry*. 128(4):483-484, 1971.

An analysis of clinical and laboratory data for 22 patients and 21 outpatients who were treated with single nightly doses of imipramine is presented. Patients were diagnosed as neurotic or psychotic and their clinical pictures included depression, apathy, psychomotor retardation, withdrawal, phobic anxiety, insomnia, obsessions, and varied somatic preoccupations. There was no change in therapeutic efficacy following single nightly doses of the drug, and undesirable side effects were less commonly observed. The laboratory data showed no significant abnormalities. The patients and the nursing staff found the single nightly doses more convenient. This analysis supports the view that imipramine, like the phenothiazines, may safely be given in single nightly doses without reduction of therapeutic efficacy and with no incidence of laboratory or clinical toxicity. 3 references. (Author abstract)

099939 Campbell, Susan B.; Douglas, Virginia I.; Morgenstern, Gert. McGill University, Montreal, Quebec, Canada Cognitive styles in hyperactive children and the effect of methylphenidate. *Journal of Child Psychology and Psychiatry and Allied Disciplines (London)*. 12(1):55-67, 1971.

Hyperactive and matched normal children were compared on 4 dimensions of cognitive style: reflection - impulsivity, field dependence - independence, constricted - flexible control, and automatization. The hyperactive group was more impulsive, more field dependent, more constricted in ability to control attention, and slower on measures of automatization than the control group. When the effect of methylphenidate on the cognitive styles of hyperactive children was examined, using a double-blind, own control design, the drug resulted in less impulsive responding and improved ability to inhibit incorrect responses. 38 references. (Author abstract)

100256 Wasz-Hockert, Ole. Dept. of Pediatrics, Univ. of Oulu, Finland Nitrazepam in enuresis. *British Medical Journal (London)*. 3(5771):433, 1971.

A pilot study of 20 enuretic children treated with nitrazepam is described. The children had normal mental development and no urological malformations. A 5mg dose of nitrazepam given

to children (ages 7 to 14) had a significant effect on nocturnal primary enuresis when compared with a placebo. A double-blind clinical trial has been started, with results and neurophysiological aspects to be reported subsequently.

**100536** Fine, Eric W. Psychiatry Department, University of Pennsylvania The use of cyclandelate in chronic brain syndrome with arteriosclerosis. *Current Therapeutic Research*. 13(9):568-574, 1971.

Results of a research study to assess the effect of cyclandelate, a cerebral vasodilator drug, on the behavior and mental state of a group of 40 inpatients with severe chronic brain syndrome associated with arteriosclerosis are presented. A double-blind crossover with placebo was selected as the technique, and the treatment consisted of 2 by 2 month periods, separated by a 2 week period of no treatment. Patients received no medication other than the trial materials and a mild, nonbarbiturate hypnotic when considered necessary. The findings suggest that, for patients with a chronic brain syndrome with arteriosclerosis, cyclandelate should be regarded as a drug which might be expected to produce changes in several important areas of functioning, and is therefore worthy of a place in any treatment regimen for patients with this diagnosis. 10 references. (Author abstract modified)

**100562** Muller-Kuppers, M. Blumenstrasse 8, D-69 Heidelberg, Germany /Treatment with dipiperon in an outpatient department for children and adolescents./ Zur Dipiperon-Behandlung in der Kinder- und Jugendpsychiatrischen Ambulanz. *Acta Paedopsychiatrica (International Journal of Child Psychiatry) (Basel)*. 38(2):40-46, 1971.

Treatment with a neuroleptic of the butyrophenones (dipiperon) in an outpatient department of children and adolescents is discussed. The 85 patients examined were diagnosed as: neurotic and reactive disorders (26), early brain damage (41), and mental deficiency (18). Results of dipiperon treatment were favorable in 76% of the patients. The mentally deficient patients responded best to the drug; results were least effective in the behaviorally disturbed group. The average dosage used was 60-100mg. Side effects were minimal, and extrapyramidal reactions were not noted. 13 references. (Journal abstract modified)

**100604** Borenstein, P.; Schneider, M.; Hayat, M.; Mascaro, G.; Cujo, Ph. Laboratoire de Psychopharmacologie neurophysiologique, Ecole pratique des Hautes Etudes, Hôpital psychiatrique, 94-Villejuif, France /Psychiatry and immunology: contribution of the experimental study of the immunodepressant effect of a corrector of extrapyramidal syndromes induced by neuroleptics: ethylbenzatropine./ *Psychiatrie et immunologie: apport de l'étude expérimentale de l'effet immunodépresseur d'un correcteur des syndromes extrapyramidaux induits par les neuroleptiques: l'éthylbenzatropine. Annales Médico-Psychologiques (Paris)*. 1(3):424-430, 1971.

A demonstration of the immunodepressant effect of ethylbenzatropine (N-ethyl-nortropanol-(3alpha)-benzidrylether) is presented. The 2 tests used in the study explore the immunity functions of lymph cells. It was observed that ethylbenzatropine diminishes significantly the capacity of human lymphocytes to transform themselves in the presence of phyto-hemagglutinin, that lymphocytes originate in normal subjects, alcoholics, or patients with diverse psychiatric disorders. However, the drug is less effective in subjects with psychiatric disorders. 13 references.

**100621** Dembicki, Eugene L. author address not given Psychiatric drugs and trends. *Journal of Psychiatric Nursing and Mental Health Services*. 9(5):39, 43, 1971.

Karkalas and Lal reported at the 1971 annual meeting of the Behavioral Pharmacology Society on Haldol (haloperidol), a drug that can eliminate symptoms of heroin withdrawal in humans and addicted laboratory animals. This is the first time a nonaddicting drug has been used to treat addiction. Ten heroin addicts were placed on oral doses of 1-2mg of the tranquilizer 3 times a day. The patients were chosen because they had been extremely heavy users of heroin and had experienced severe withdrawal symptoms. Of the 10 patients, 5 were completely relieved of withdrawal symptoms and craving for heroin, 1 responded partially, and 4 patients did not respond. When the successfully treated patients had been without heroin for a month, they exhibited no apparent need for the drug. Several have been taken off Haldol and released. It is suggested that since the nonresponding patients were users of large amounts of heroin, higher doses of Haldol might help. Haldol was administered to rats suffering withdrawal aggression

and was remarkably effective. Haldol appears to be chemically related to morphine, though it is nonnarcotic and nonaddicting. It is speculated that it may eliminate withdrawal symptoms by occupying the same brain receptors as morphine. Methadone supported addicts treated with Haldol got tremendous relief, not only from anxiety and agitation, but from their need for methadone.

**100809** Jensen, Ole Nygaard; Olesen, Ole Vendelin. Elmehusene 159, 2600 Glostrup, Denmark Folic acid concentrations in cerebrospinal fluid in relation to anticonvulsant drugs and cerebral atrophy. *Acta Psychiatrica Scandinavica (Kobenhavn)*. 47(2):206-212, 1971.

A study of folic acid concentrations in cerebrospinal fluid (CSF) was made in relation to anticonvulsant drugs and cerebral atrophy. The subjects were 32 patients (17 of whom were treated with anticonvulsive drugs), who all had pneumoencephalography done on suspicion of mental deterioration. A positive correlation was demonstrated between serum and CSF folate levels. No statistically significant difference in CSF folate levels was found between the group treated with anticonvulsive drugs and the control group. A negative correlation was demonstrated between serum folate levels and the CSF/serum folate quotients. No relation could be found between the presence or absence of cerebral atrophy or the severity of the atrophy and the CSF folate levels. However, 7 patients with progressive cerebral atrophy did have on average significantly lower CSF folate values than the rest of the patients. 15 references. (Author abstract modified)

**100844** Melchior, J.C.; Buchthal, F.; Lennox-Buchthal, M. Rigshospitalet, Aldeling G.Blegdamsvej 9, 2100 Copenhagen, Denmark The ineffectiveness of diphenylhydantoin in preventing febrile convulsions in the age of greatest risk, under three years. *Epilepsia (Amsterdam)*. 12:55-62, 1971.

Anticonvulsant therapy to prevent febrile convulsions in children is described. A well controlled trial of prophylactic medication with diphenylhydantoin showed it to be ineffective in preventing febrile convulsions in children under 3 years of age. Twenty three children were followed for 6 to 30 months. The serum concentration of diphenylhydantoin was determined every 2-3 months and was consistently above

10micrograms/ml. The recurrence rate was slightly higher than expected in untreated children. Consideration was taken of the relation of age, sex and family history to the rate of recurrence. The serum concentration of the drug at the time of 5 febrile convulsions was in and above the therapeutic range in adults. It is possible that diphenylhydantoin (more than 10micrograms/ml in the serum) prevented severe convulsions. In children under 2 years 21% of the convulsions before medication and on inadequate medication were severe; 8% of convulsions at age 2-3 years were severe. None of 14 febrile convulsions on adequate diphenylhydantoin was severe. In 3 adequately treated children 3 years old and older, diphenylhydantoin probably prevented febrile convulsions. Two of them were having frequent episodes, which ceased when adequate medication was begun, and another child developed a convulsion a week after medication was withdrawn. Acute toxic symptoms (lethargy, ataxia and vomiting) were rare though the serum concentration was transiently above 30micrograms/ml in 9 children. Nystagmus was not reported. Chronic toxic signs (gingival hypertrophy, hirsutism and ataxia) did not occur. Two children may have had petit mal seizures when the serum concentration of diphenylhydantoin was high. No chronic toxic signs were observed. 13 references. (Author abstract modified)

**100845** Faero, O.; Kastrup, K.W.; Melchior, J.C.; Thorm, J. Rigshospitalet, Tagensvej, 2200 Copenhagen, Denmark Phenobarbital as prophylaxis for febrile convulsions: a preliminary report. *Epilepsia (Amsterdam)*. 12:109-112, 1971.

Continuous phenobarbital treatment of children with febrile convulsions is reported. Nineteen children (under 3 years) were treated and followed and no child had a convulsion. Dosages and serum concentration measurements are described. There is no proof as yet that febrile convulsions occur despite a serum concentration of phenobarbital in the therapeutic range. The preliminary report does not, however, give positive evidence that phenobarbital prevents febrile convulsions. Side effects of the drug treatment are described. 6 references.

**100854** Paulley, J.W. 51 Anglesen Road, Ipswich, England Crohn's disease: treatment by corticosteroids, antibiotics and psychotherapy. *Psychotherapy and Psychosomatics (Basel)*. 19(1-2):111-117, 1971.

In a study of Crohn's disease, 39 of 40 patients treated up to 18 years with corticosteroids, antibiotics and psychotherapy replied to a postal questionnaire in 1969. Previous reports of the relevance of emotional stress and personality to the etiology of Crohn's disease are summarized together with types of provocative stress and personality profile found consistently in this series and previously. The management employed is described. The danger of premature dose reduction of corticosteroids is emphasized. If the normal 33% relapse rate following surgery is to be avoided or reduced, psychotherapy is essential and also corticosteroids in most cases. 24 references. (Journal abstract modified)

101377 Castaigne, P.; Rondot, P.; Ribadeau-Dumas, J.L.; Sald, G. Clinique des Maladies du Systeme Nerveux, Hopital de la Salpetriere, 47, boulevard de l'Hopital, F.75-Paris-13, France /Extrapyramidal affliction in two young brothers; remarkable effects of treatment with L-Dopa./ Affection extrapyramidale evoluant chez deux jeunes freres; effets remarquables du traitement par la L-Dopa. *Revue Neurologique (Paris)*. 124(2):162-166, 1971.

The effectiveness of L-Dopa treatment of extrapyramidal disorders is briefly discussed, based on case history material involving 2 young brothers. Major symptoms were progressive rigidity, dystonia, and a pyramidal syndrome, similar to early symptoms of Parkinson's disease. Apparent reduction of the degenerative condition was achieved in both cases with moderate doses of the drug, although it is cautioned that diagnostic uncertainties, absence of anatomic controls and biological criteria must be taken into account when drawing conclusions concerning the universal effectiveness of this type of treatment. Discussion is also included regarding the likely mechanisms of action and a possible similarity with that involved in apomorphine therapy in Parkinson's disease. 13 references.

101418 Vymazal, J.; Jindrova, M.; Faber, J. Katerinska 30, Prague 2, Czechoslovakia /Our experience with treatment of hepatolenticular degeneration with penicillamine./ Nase zkusenosti s lecbou hepatolentikularni degenerace penicilaminem. *Prakticky Lekar (Praha)*. 51(12):462-465, 1971.

Although therapy for hepatolenticular degeneration (Wilson's disease) was effective to only a

small degree in recent years, today penicillamine produces dramatic improvement of the condition with frequent administration. The average daily dosage of the preparation is 1.5g for adults, and it varies for children. The clinical picture of 5 patients with hepatolenticular degeneration showed various combinations of decreased intellect, dysarthria, total extrapyramidal rigidity, apathy, decreased memory, hemiparesis of the right side, and other manifestations. In all cases, administration of penicillamine caused improvement, and in 2 patients a dramatic effect was noted. In 4 cases there was a temporary deterioration of neurological symptoms following penicillamine intake, but this occurrence should not be a hindrance to the continuation of therapy. Results indicate that the earlier the onset of treatment, the better the outcome for the patient. 17 references.

101432 Nathenson, Gerald; Golden, Gerald S.; Litt, Iris F. Morrisania City Hospital, 168th Street and Gerard Avenue, Bronx, N.Y. 10452 Diazepam in the management of the neonatal narcotic withdrawal syndrome. *Pediatrics*. 48(4):523-527, 1971.

The usefulness of diazepam in the management of the neonatal narcotic withdrawal syndrome is reported based on a study of 18 infants in a diazepam treatment program. The drug appeared to be safe and effective. Control may be quickly achieved with a short course of therapy without serious side effects or the occurrence of rebound symptoms when the therapy is discontinued. 30 references. (Journal abstract)

101536 Campbell, Magda; Fish, Barbara; Shapiro, Theodore; Floyd, Arthur, Jr. New York University School of Medicine, 550 First Avenue, New York, N.Y. 10016 Imipramine in preschool autistic and schizophrenic children. *Journal of Autism and Childhood Schizophrenia*. 1(3):267-282, 1971.

Imipramine was studied in 10 autistic and schizophrenic children 2 to 6 years of age, whose intellectual functioning ranged from low average and mild to severe mental retardation. The purpose of this pilot study was to explore the effects of imipramine in this patient population. Imipramine showed a mixture of stimulating, tranquilizing, and disorganizing effects. Three children improved markedly, 3 slightly, and 5 became worse (nonblind evaluations). Only 2 were rated improved by the 'blind' psychiatrist. In

general, this was not a good drug for this group of children. The overall effect was infrequently therapeutic and usually outweighed by the toxic effects. Epileptogenic effect, effect on psychosis, as well as possible mechanisms of action of imipramine are discussed. It is suggested that this drug merits further exploration in the most retarded, mute, anergic children, and in those with only borderline or little psychotic symptomatology. 48 references. (Author abstract)

**101560** Smith, Barry T.; Masotti, R.E. Department of Pediatrics, Queen's University, Kingston, Ontario, Canada Intravenous diazepam in the treatment of prolonged seizure activity in neonates and infants. *Developmental Medicine and Child Neurology (Tadworth, Surrey, England)*. 13(5):630-634, 1971.

The intravenous administration of diazepam was used to treat 40 episodes of prolonged seizure activity in 21 infants, with a satisfactory therapeutic response in 35 episodes (87%). Dilution to 1mg/ml and slow intravenous injection until control occurs is strongly recommended, for the effective dose varies widely. Respiratory arrest occurred in one case, despite a dose well tolerated by other infants. It was concluded that intravenous diazepam is a safe and effective drug for the treatment of prolonged seizure activity in infants. 11 references. (Author abstract modified)

**101643** Sykes, Donald H.; Douglas, Virginia I.; Weiss, Gabrielle; Minde, Klaus K. Department of Psychology, Queen's University of Belfast, Belfast, Northern Ireland Attention in hyperactive children and the effect of methylphenidate (ritalin). *Journal of Child Psychology and Psychiatry, etc. (Oxford, England)*. 12(2):129-139, 1971.

The maintenance of attention to an experimenter paced task requiring the detection of significant stimuli was impaired in hyperactive children. When compared with a matched normal control group, the hyperactive children detected fewer of the significant stimuli and made more incorrect responses to nonsignificant stimuli. The presence or absence of an auditory distractor had no influence on the performance of either group of children. Those hyperactive children treated with methylphenidate (ritalin) showed a significant improvement in all aspects of their performance when compared to a control group of hyperactive children given a placebo. 22 references. (Journal abstract)

**101684** Whitehead, Paul L.; Clark, Lincoln D. Department of Psychiatry, University of Utah Medical Center, Salt Lake City, Utah 84112 Effect of lithium carbonate, placebo, and thioridazine on hyperactive children. *American Journal of Psychiatry*. 127(6):824-825, 1971.

A pilot study of hyperactive children given lithium carbonate alternately with placebo and thioridazine is described. There was no difference between the activity level and behavior occurring with lithium intake and that occurring with placebo intake; thioridazine produced some reduction of activity. Six of 7 children were described as improved in activity and general behavior, which is attributed to the placebo effect of the treatment. 2 references. (Journal abstract modified)

**101687** Adams, H.Patrick. Paoli, Pa. Diphenylhydantoin in the treatment of alcohol withdrawal. *Journal of the American Medical Association*. 218(4):598, 1971.

Comments are made concerning the use of diphenylhydantoin in the treatment of alcohol withdrawal. The structural similarity of diphenylhydantoin to that of phenobarbital (without the dangers of respiratory depression, over sedation, physical addiction, and increased tolerance) plus cross tolerance with ethanol, makes it the ideal drug for routine prophylactic use in the prevention of convulsions, delirium tremens, and hallucinosis in the immediate alcohol withdrawal period. The drug is usually given with a sedative tranquilizer. 3 references.

**101746** Butterworth, A.T. East Louisiana State Hospital, Jackson, La. Depression associated with alcohol withdrawal. *Quarterly Journal of Studies on Alcohol*. 32(2):343-348, 1971.

In a double-blind study, hospitalized men alcoholics aged between 23 and 60 years were given either imipramine oral concentrate in doses varying from 75 to 200mg or placebo for 3 weeks. Treatment evaluation based on global ratings and scores on the Lehmann - Rockliff Depression Rating showed no differences between the groups in improvement after 1 week, but at the end of the third week 15 of the 20 in the drug treated group and only 8 of the 20 in the placebo treated group showed good or excellent improvement. Side effects of the drug were minimal. No evidence of incompatibility between the drug and other detoxication agents was found. 9 references. (Author abstract)

**101754** Brune, F.; Busch, H. 775 Konstanz, Schotenstr.25, Germany Anticonvulsive-sedative treatment of delirium alcoholicum. *Quarterly Journal of Studies on Alcohol*. 32(2):334-342, 1971.

Disturbances of regulatory processes of the central nervous system, particularly counterregulatory mechanisms which operate during alcohol intoxication and withdrawal and the concomitant lowering of the convulsive threshold, contribute to the genesis of delirium tremens. At the Neuropsychiatrische Universitätsklinik in Giessen, Germany, carbamazepine (400mg) and, when necessary, 25mg of chlorthalidoxepoxide, 10mg of diazepam or 1g of clomethiazole, are given initially, and then subsequent smaller doses, to patients in delirium or predelirium, at 3 hour intervals until they fall asleep. Vitamins, fluids, electrolytes and antibiotics are given as required. For mild withdrawal symptoms, 3 doses of 200mg of carbamazepine and 500mg of clomethiazole are sufficient. Two case histories are given as illustration. A combination of a neuroleptic and anticonvulsant with a sedative that lowers psychomotor excitement is most effective in treating delirium. The drugs described are recommended because they do not produce untoward side effects and are effective even in the presence of serious liver damage. 20 references. (Author abstract)

**101988** Godwin-Austen, R.B.; Clark, T. Dept. of Neurology, General Hospital, Nottingham NG1 6HA, England Persistent phenothiazine dyskinesia treated with tetrabenazine. *British Medical Journal (London)*. 4(5778):25-26, 1971.

Six patients with persistent phenothiazine dyskinesia were treated in a double-blind controlled trial with tetrabenazine 100mg in divided dosage. In 3 patients the abnormal movements were abolished and in 2 others there was some improvement, but this was no greater than that achieved with the diazepam control. Tetrabenazine may be useful in the treatment of some patients with persistent phenothiazine dyskinesia. 4 references. (Author abstract)

**101989** Singer, K.; Cheng, M.N. Dept. of Psychiatry, Univ. of Hong Kong, Hong Kong Thiopropazate hydrochloride in persistent dyskinesia. *British Medical Journal (London)*. 4(5778):22-25, 1971.

Thiopropazate (Dartalan) was found to be significantly more effective than a placebo in relieving dyskinesia in 23 patients with functional psychosis and persistent dyskinesia associated

with prolonged phenothiazine therapy. Each patient whose dyskinesia had persisted unchanged for at least one month after phenothiazine withdrawal received thiopropazate by mouth for 3 weeks and the placebo for a similar period. Patients were evaluated before the trial, at 3 weeks, and at 6 weeks. The drug also improved psychotic behavior. Possible side effects which were generally mild, were noted in 8 patients, of whom 6 had Parkinsonism and 4 drowsiness. None had side effects while on the placebo. The findings indicate that thiopropazate is of value in persistent dyskinesia associated with prolonged phenothiazine intake -- a condition hitherto unresponsive to other treatment. Further research is required to determine the long-term effectiveness of the drug. 19 references. (Author abstract)

**102383** Zgaga, N. Altersheim Baumgarten, Huttendorfer Strasse 188, A-1140 Vienna XIV, Austria /New possibilities of controlling states of unrest of a psychomotor or cerebrosclerotic nature in institutional geriatrics./ Neue Möglichkeiten der Beherrschung psychomotorischer und zerebralsklerotischer Unruhezustände in der Anstaltsgeriatrie. *Wiener Medizinische Wochenschrift (Wien)*. 121(37):648-650, 1971.

Fifty patients of an old age home whose ages ranged from 70 to 92 years, and all of whom suffered from severe arteriosclerosis, were treated with Distraneurin for acute psychomotor unrest, chronic insomnia, leaving their beds, and situational confusion. Full symptomatic success was achieved by means of either intravenous or oral administration. The states of excitement and unrest were controlled and appropriate behavior during the day and undisturbed rest during the night were achieved. Elastic individual dosage is essential; important side effects were not observed. Distraneurin appears, therefore, to close an important gap in geriatric therapy. 5 references.

**102751** Scotti, Giuseppe; Spinnler, Hans. Montreal Neurological Institute, Montreal, Quebec, Canada Amantadine and Huntington's chorea. *New England Journal of Medicine*. 285(23):1325-1326, 1971.

Amantadine was clinically tested on 5 patients with Huntington's chorea, ranging in age from 38 to 59. There were 2 men and 3 women; all had a high familial prevalence of the disease with classic symptomatology. Two patients received a dosage of 100mg twice daily for 5 and 6 months,

respectively. The other 3 received 300mg daily for 2, 3 and 6 months. For one patient, amantadine was added to previous treatment with haloperidol and reserpine. With the other 4 patients, amantadine was replaced at different intervals by placebo for 5 to 10 days and then reinstated. Alone, the drug had no effect on involuntary movements in 3 of 4 patients; to some extent it did improve mood and alertness. In the fourth patient, a consistent improvement of gait and a slight reduction in involuntary limb movements occurred. The combination of amantadine, haloperidol and reserpine in the fifth patient selectively reduced proximal limb movements and improved the dancing gait. Under placebo therapy, the original symptomatology recurred. 4 references.

102795 Vol't, M.Sh. Moskovskaya gorodskaya klinicheskaya psikhicheskaya bol'nitsa No.4, Moscow, USSR /Experience with administration of noyleptil for the treatment of emotional disorders and behavioral disturbances in epileptic patients./ Opyt primeneniya noileptila dlia lecheniya emotsional'nykh narushenii i rasstroistv povedeniya u bol'nykh epilepsiei. In: *Semenov, S., Voprosy kliniki i terapii psikhicheskikh zabolevanii*. Moscow, Ministerstvo Zdravookhraneniya SSSR, 1971.276 p. (p.125-128).

Experimental treatment of 32 women ranging in age from 11 to 50 years and suffering from epilepsy for a period of 5 to 20 years and longer has indicated that noyleptil is an extremely effective drug for the correction of behavior and affective manifestations in epileptics. Noyleptil is especially effective in the treatment of psychopathic disorders and dysphoria. For stable results, treatment should be systematic and continuous. In patients with vasovegetative and expressed vascular dynamic disturbances, decreasing the drug dosage did not alleviate the disorders, and noyleptil administration was stopped after 12 days of treatment.

103099 Mellor, C.S.; Sims, A.C.P. Alcoholism Treatment Unit, Springfield Hospital, Manchester 8, England Citrated calcium carbimide/alcohol reaction -- its severity and effectiveness as a deterrent. *British Journal of Addiction (Oxford)*. 66(2):123-128, 1971.

An investigation was conducted on the relationship between the physical severity of the citrated calcium carbimide -alcohol reaction and its effec-

tiveness as a deterrent; an improved treatment regimen for alcoholism resulted. An attempt was made to simulate the likely sequence of events which occur when alcoholics taking this drug, drink. The 16 male subjects were receiving 100mg of citrated calcium carbimide daily. For the test they were allowed 2 ozs whisky (18 G absolute alcohol) every 15 minutes until the reaction deterred them. There were 9 subjects still unconvinced when their reactions were terminated on physical grounds. Four subjects who had taken 6 oz whisky had falls of systolic blood pressure below 85 mm Hg yet wished to continue drinking. The new treatment regimen provides a daily intake of 100mg of citrated calcium carbimide. The reactivity of each patient is then tested with 2 oz of whiskey. In the absence of a convincing reaction, provided there are no contraindications, another 2 oz of whiskey is given after 15 minutes. If this still does not produce the desired reaction, citrated calcium carbimide treatment is not used. 9 references. (Author abstract modified)

103917 Sato, Susumu; Daly, Richard; Peters, Henry. Univ. of Wisconsin Hospitals, Madison, Wisc. Reserpine therapy of phenothiazine induced dyskinesia. *Diseases of the Nervous System*. 32(10):680-685, 1971.

Five elderly patients who received phenothiazine for a year or more developed severe, bizarre, generalized dyskinesias which persisted after cessation of phenothiazine treatment. This disorder has not been treated successfully in the past. The patients were treated with relatively high doses of reserpine and all showed remarkable diminution of their abnormal movements. It is concluded that reserpine is a useful agent in the management of phenothiazine induced dyskinesia. 38 references. (Author abstract)

104047 Ferlemann, Mimi. author address not given Alcoholism. *Menninger Perspective*. 2(5):4-8, 1971.

Three alumni of the Menninger School of Psychiatry are presently investigating different methods of alcoholism treatment. Dr. William Simpson, the clinical director of the Topeka State Hospital, directs a program in which former alcoholics counsel patients and try to act as a bridge between them and the community. Dr. Kenneth Godfrey uses LSD in treating alcoholics at the Topeka Veterans Administration Hospital to increase the patient's awareness of

himself and to make the patient realize that alcohol is not the only way of life. Dr. Peter Hartocollis, staff psychiatrist and director of research at the C.F. Menninger Memorial Hospital, treats alcoholics as emotionally disturbed people whose alcoholism is a symptom of some underlying neurotic, characterological, or psychotic disorder rather than a disease entity of its own. All 3 approaches have had a good deal of success, yet all 3 men agree that no one approach can accommodate all alcoholics.

**104366** Pearson, John W.; Lasagna, Louis; Laird, Robert D. University of Hawaii, Health, Education, and Welfare Department, USCAR, APO San Francisco, Calif. 96248 Analgesic activity of oral and intramuscular profadol. *Clinical Pharmacology and Therapeutics*. 12(4):683-690, 1971.

A double-blind clinical trial was conducted in 188 postpartum patients, comparing single oral doses of profadol, 50mg and 100mg base, with codeine, 60mg, and placebo. Only the pain relief afforded by 100mg profadol was statistically significantly different from placebo. Intramuscular profadol was studied in a series of open and double-blind clinical trials performed in patients with postoperative pain. The analgesic equivalent of 10mg of morphine was between 20 and 40mg of profadol base. The highest doses of profadol studied were 120 and 160mg; these provided outstanding relief of pain. Since the drug is a racemic mixture, studies of the isomers would be of interest. 14 references. (Author abstract)

**105547** Hall, Colin D.; Haworth, Chester C. Division of Neurology, Department of Medicine, University of North Carolina, N.C. 'Staff man syndrome' and trauma. *British Medical Journal (London)*. 3(5773):531, 1971.

A case of stiffman syndrome after back trauma is described. Whether the syndrome is related in some way to the spinal damage or is secondary to months of continuous voluntary tension in the paraspinal muscles as a result of pain is not clear. Hysteria cannot be ruled out. With 60mg diazepam orally, the patient became able to walk unaided and showed only minimal residual paraspinal stiffness. Attempts to substitute a placebo and then diphenylhydantoin for diazepam were quite unsuccessful, the patient suffering severe relapse which on one occasion required catheterization for complete urinary retention which was believed due to muscle spasm. Favored

improvement has been maintained on diazepam for one year. 1 reference.

**105835** Vinar, O.; Ruzicka, S.; Vinarova, E. Institute of Psychiatry, Prague 8-Bohnice, Czechoslovakia Controlled comparison of the therapeutic effect of trimepridine and amitriptyline. *Acta Nervosa Superior (Praga)*. 13(3):163-166, 1971.

Since the difference between imipramine and trimepridine is analogous to the difference between chlorpromazine and levopromazine, and since levopromazine has more intensive sedative properties than chlorpromazine, it could be expected that trimepridine would also have more sedative effects than imipramine. Forty three patients selected according to strict criteria received active drugs during trials lasting 3 weeks. The sample was restricted to patients who were resistant to lithium. Twenty patients were treated with trimepridine, and 23, with amitriptyline. The dosage of both tested drugs was flexible, and 'blind' psychiatrists could adjust the doses according to the reaction of the particular patient. Depression was not found to be better alleviated by amitriptyline than by trimepridine. No statistically significant difference was noted between the therapeutic action of trimepridine and amitriptyline. 12 references.

**105890** Bonn, J.A.; Harrison, Jean; Rees, W.Linford. Academic Department of Psychological Medicine, St.Bartholomew's Hospital, London, EC1A 7BE, England Lactate-induced anxiety: therapeutic application. *British Journal of Psychiatry (London)*. 119(551):468-470, 1971.

Comment is offered on a study of anxiety and the effects of sodium lactate assessed clinically and physiologically by Kelly, Mitchell-Heggs, and Sherman, and it is noted that a new method of treatment has been developed. Thirty three Ss took part in a study designed to test the reliability of panic reproduction as described by Pitts and McClure, with physiological, biochemical, and endocrinological measurements spontaneously measured. The findings differed from the earlier ones in that, for example, none of the patients reported an exact reproduction of their natural anxiety attacks in association with lactate infusion. The new method of treatment involves using infusions of sodium lactate to induce maximum anxiety reaction for therapeutic purposes by thrice weekly flooding with lactate for patients suffering from

intractable anxiety states without marked specific phobia. 9 references.

**106063** Reynolds, E.H.; Wrighton, R.J.; Johnson, A.L.; Preece, J.; Chanarin, I. The National Hospital for Nervous Diseases, Queen Square, London WC1, England Inter-relations of folic acid and vitamin B12 in drug-treated epileptic patients. *Epilepsia (Amsterdam)*. 12:165-171, 1971.

Observed changes in serum vitamin B12 for epileptic patients are reported. During treatment with folic acid, 15mg daily for 2 years, serum vitamin B12 levels fell in 24 out of 30 epileptic patients treated with anticonvulsant drugs. The most rapid fall occurred in the first 3 months of folate therapy, from a mean of 360pg/ml to 221pg/ml, but it continued more slowly for up to 15 months, or longer in some. In 10 of 11 patients in whom folic acid therapy was stopped but anticonvulsant therapy continued, serum folate levels subsequently fell to subnormal values within 18 months. 14 references. (Author abstract modified)

**106132** Smith, James W.; Johnson, L.C.; Burdick, J.Alan. Shadel Hospital, Seattle, Washington Sleep, psychological and clinical changes during alcohol withdrawal in NAD-treated alcoholics. *Quarterly Journal of Studies on Alcohol* 32(4):982-994, 1971.

An investigation was designed to correlate more precisely the measurements of psychological and clinical state with sleep characteristics of alcoholics, all within the framework of a new drug study. In a 12 day double-blind experiment, indigent hospitalized volunteers experiencing alcohol withdrawal received orally 3 grams of nicotinamide-adenine dinucleotide nadide (NAD) daily or a placebo. No significant differences between the 2 groups occurred in laboratory, clinical, behavioral, psychological or sleep measurements. 33 references. (Author abstract modified)

**106308** Rapoport, Judith; Abramson, Alice; Alexander, Duane; Lott, Ira. Psychiatry Dept., Georgetown University Medical School, Washington, D.C. Playroom observations of hyperactive children on medication. *Journal of the American Academy of Child Psychiatry*. 10(3):524-534, 1971.

In a controlled outpatient study of 19 hyperactive boys (mean age 8.2years) of normal intelligence, it was found that while both chlorpromazine and dextroamphetamine had a beneficial effect on hyperactivity, only

dextroamphetamine had an effect on playroom measurements of physical activity and distractibility. The relation of playroom change to clinical change is not clear. Initial distractibility was the only playroom variable which was predictive of teacher rating or clinical change with dextroamphetamine. None of the playroom variables predicted change with chlorpromazine. The short time period and low doses employed in this study do not permit comparative statements about the clinical superiority of either drug for reducing hyperactivity. Clinical implications of the findings are discussed. 22 references. (Author abstract modified)

**106602** Burrows, W.G. Nebraska Psychiatric Institute, University of Nebraska College of Medicine, Omaha, Nebraska Minimal cerebral dysfunction. *Nebraska State Medical Journal*. 56(11):444-447, 1971.

The use of antidepressive drugs with children with minimal cerebral dysfunction has had some success. Major tranquilizers, anticonvulsants and antidepressants have been used. A clinical trial of either amphetamine or methylphenidate has been found valuable. If the child is so anorexic as to be debilitated, deanol acidamidobenzoate may be helpful. Amphetamine or methylphenidate are used for their paradoxical effect and do not seem to be habituating in children under 10 or 12. When a child is reaching 10 or 12 years the medication should be discontinued if any signs of stimulation appear, or the development of insomnia or a decrease in appetite are noted. The ailment may be simply a delay in development. The child under treatment should have medication stopped on a trial basis anytime after 10 years of age. 6 references.

**106862** Shetty, Taranath. Div. of Pediatric Neurology, Harvard Medical School, Boston City Hosp., Boston, Mass. 02118 Photoc responses in hyperkinesis of childhood. *Science*. 174(4016):1356-1357, 1971.

Intravenous injections of drugs that stimulate the central nervous system (dextroamphetamine and methylphenidate) decreased photic driving responses and photomyoclonic responses in hyperkinetic children. Neither injections of saline in these children nor injections of stimulant drugs in normal subjects produced such diminution. The neurophysiological implications are discussed. 15 references. (Author abstract modified)

106954 Pestikoff, Richard B.; Davis, Parma C. Dept. of Psychiatry, Baylor College of Medicine, 1200 Moursund Ave., Houston, Tex. 77025 Treatment of pavor nocturnus and somnambulism in children. *American Journal of Psychiatry*. 128(6):778-781, 1971.

Seven children with either pavor nocturnus or somnambulism, or both, were studied in an attempt to find a method of treating these sleep disorders. Each child received imipramine orally at bedtime for a minimum of 8 weeks. In all 7 patients a complete cessation of symptoms resulted. Although the drug seems to be an effective treatment for these disorders, its mechanism of action is not yet known. 9 references. (Author abstract)

107595 Wells, P.G.; Malcolm, M.T. Young People's Unit, Victoria Road, Macclesfield Controlled trial of the treatment of 36 stutterers. *British Journal of Psychiatry (London)*. 119(553):603-604, 1971.

A study was performed with 36 subjects to determine the effectiveness of 2 drugs, haloperidol and orphenadrine, in reducing stuttering. The 36 stutterers were divided into 6 groups, each group received the following treatment: Group 1, haloperidol, orphenadrine, and speech therapy; Group 2, placebo haloperidol, orphenadrine, and speech therapy; Group 3, placebo haloperidol, placebo orphenadrine, and speech therapy; Group 4, haloperidol, orphenadrine, and no speech therapy; Group 5, placebo haloperidol, orphenadrine, and no speech therapy; Group 6, placebo haloperidol, placebo orphenadrine, and no speech therapy. Patients in groups 2, 3, 5, and 6 not receiving haloperidol showed no significant changes when tested at 4 and 8 weeks. Of the 12 subjects in groups 1 and 4 receiving haloperidol, 10 showed considerable improvement and 2 were marginally worse when tested after 4 weeks. Unfortunately, 4 of the most improved subjects dropped out after 4 weeks. The remaining 8 patients showed no significant improvement when tested after 8 weeks; however, the gains achieved at 4 weeks were maintained at 8 weeks. 3 references.

107596 Carlsson, Carl; Johansson, Tage. Department 2, Lillhagen Hospital, 422 03 Hising Backa 3, Sweden The psychological effects of propranolol in the abstinence phase of chronic alcoholics. *British Journal of Psychiatry (London)*. 119(553):605-606, 1971.

The psychological effects of propranolol in the abstinence phase of chronic alcoholics were studied.

It was found that propranolol significantly reduced tension and depression, but did not significantly reduce dysphoria. 6 references.

108231 Greenwold, Warren E.; Jones, Phillip R. Dept. of Pediatrics, Carle Clinic, Urbana, Ill. The effect of methylphenidate on behavior of three school children: a pilot investigation. *Exceptional Children*. 38(3):261-262, 1971.

A pilot study to determine the effects of methylphenidate (Ritalin) on school children through double-blind techniques is reported. A 2 week investigation of 3 children was made and the drug seemed to have a desirable effect on the behavior of problem children thus improving the learning climate. Conduct problems, personality problems and deviant behaviors were decreased. 3 references.

108473 Marsh, Gayle G.; Kravitz, Edward A. UCLA School of Medicine, California Increase in fine motor control in Parkinson patients following levodopa. *Perceptual and Motor Skills*. 33(1):211-215, 1971.

Twenty five Parkinson patients and 31 controls, matched for age and verbal IQ, were tested on a handwriting task prior to receiving levodopa. Fourteen of the original 25 patients and 22 of the original 31 controls were also tested on maze tracing ability prior to levodopa treatment. The Parkinson patients were retested on the same tests after being on levodopa for at least 2 1/2 months; the controls were retested after a comparable time interval. Parkinson patients demonstrated improvement in tasks measuring fine motor control and speed. The control groups did not show improvement on either task. 7 references. (Author abstract)

108487 Singer, K.; Cheng, M.N. Mental Health Service, Hong Kong Psychiatric Center, Hong Kong Thiopropazate hydrochloride in persistent dyskinesia. *British Medical Journal (London)*. 4(5787):626, 1971.

Two addenda are added to a paper in which it was reported that thiopropazate (Dartalan) was significantly more effective than a placebo in relieving dyskinesia in patients with functional psychosis and persistent dyskinesia associated with prolonged phenothiazine therapy. Addendum 1: thiopropazate was also found to be more effective than a placebo in relieving dyskinesia in 15 patients with organic psychosis. Addendum 2:

perphenazine (Trilafon), a piperazine derivative of phenothiazine, in a dose of 8mg 3 times daily was found to be effective in relieving dyskinesia in 14 patients with functional psychosis and prolonged phenothiazine intake.

109885 Temkov, I.; Dashinova, N. Katedra po psikhatriya, VMI, Sofia, Bulgaria /Pyrithloxin (Encephabol) in psychiatric practice./ Pirltioksin (Encephabol) v psikhiatrichnata praktika. *Suvremenna meditsina (Sofia)*. 22(7):20-23, 1971.

Doses of 300 to 400mg daily of encephabol administered over a period of 1 to 12 months, produced good therapeutic effect in 20 out of 25 patients with systemic diseases of the central nervous system leading to cerebraesthesia and encephalopathy of different degree, including focal neurological symptoms. The combination of encephabol in a dose of 300 to 400mg daily administered at 8, 12, and 16:00 hours together with tranquilizers (benzodiazepines and tacitin) in doses of 10mg at 18:00 hours and 15 to 20mg at 21:00 hours, administered to 35 patients, is a very good therapeutic method in treatment of severe, protracted and therapeutically resistant functional diseases of the nervous system manifested by asthenic syndromes in combination with psychovegetative and fear manifestations. Encephabol was effective primarily among relatively retarded children after somatic asthenization in cases of oligophrenia (20 patients). 15 references. (Journal abstract modified)

110002 Birdwood, G.F.B.; Gilder, S.S.B.; Wink, C.A.S. author address not given Parkinson's disease: a new approach to treatment. New York, Academic Press, 1971. 128 p.\$5.50.

A report of an international clinical symposium on Parkinson's disease is presented. The symposium was organized to reduce delays in studying and making known the efficacy and side-effects of a particular new drug —amantadine hydrochloride (Symmetrel). Specific topics considered include: effectiveness of Symmetrel in different forms of Parkinsonism; dosage; combination with other therapy; side-effects; mode of action of amantadine; recognition and assessment of the early case. The volume is addressed to hospital physicians and general practitioners but is applicable to medical researchers and students.

110120 Golodets, R.G.; Rosllakov, V.S. Moskovskii nauchno-issledovatel'skii institut psikhatrii MZ

RSFSR, Moscow, USSR /Use of tegretol in the treatment of epileptic patients with mental disorders./ *Primenenie tegretola pri lechenie bol'nykh epilepsiei s psikhicheskimi narusheniami*. In: *Semenov, S., Voprosy klin. i terapii psikh.zabolevani*. Moscow, Ministerstvo Zdravookhraneniia SSSR, 1971. 276 p.(p.154-160).

Carbamazepine has been used as an independent or supplementary substance against a background of the therapy in progress for epilepsy. The average daily dosage was 400 to 600mg, but higher dosages were often administered to obtain a therapeutic effect. In the process of treatment, moderation of behavior, renewed interest, and removal of emotional tension were observed. In the light of these results, the preparation was indicated for 42 epileptic patients. With the exception of 1 patient with the psychotic form of the disease, all subjects had extensive convulsive attacks, which arose not more frequently than once or twice within 2 to 3 months under the influence of anticonvulsive therapy. The daily dosage of carbamazepine consisted of 200 to 800mg. Side effects were noted in only 3 patients. The treatment was effective in almost all subjects and especially in patients who had manifested expressed dysphoric disorders.

110845 Brogden, R.N.; Speight, T.M.; Avery, G.S. Australasian Drug Information Services, P.O.Box 30-049, Takapuna North, Auckland 9, New Zealand Levodopa: a review of its pharmacological properties and therapeutic uses with particular references to Parkinsonism. *Drugs (Basel)*. 2(4):262-400, 1971.

A review of the pharmacological properties and therapeutic uses of levodopa (L-dopa) is presented with particular reference to parkinsonism. The detailed review includes: therapeutic trials; pharmacodynamic studies; animal studies; and human studies. It is noted that L-dopa side effects are common in humans, are dose dependent and reversible. L-dopa is the most effective agent available for the drug treatment of Parkinson's syndrome but is probably of no value in the treatment of drug induced parkinsonism. 336 references.

111658 Maxwell, Cyril; Seldrup, Jorgen. Geigy Pharmaceuticals, Macclesfield, Cheshire, England Imipramine in the treatment of childhood enuresis. *Practitioner (London)*. 207(1242):809-814, 1971.

A double-blind cross over trial of placebo and imipramine in 2 strengths was undertaken by 30 general practitioners in the United Kingdom to learn more about enuresis and its treatment. All patients used dry-bed charts for the 2 months of the study. Results from 125 children were analyzed, twice as many boys as girls. Twenty two were not living with their natural father. The superiority of imipramine over placebo was confirmed and this was used as a parameter which indicated that there was an optimum dose level, 25mg often being superior to 50mg at night. Results were good in all patients but better in those who had previously been dry for less than a week, but did not sleep too long and who talked early. The dry-bed chart appears to be an effective treatment. 3 references. (Author abstract modified)

113747 Kamyranov, I.M. Rizhskaya respublikanskaya psikhiatricheskaya bol'nitsa, Riga, USSR /Use of ampullized Seduxen in treatment of epileptic status./ Opyt primeneniya ampulirovannogo Seduksena v lechenii epilepticheskogo statusa. *Zhurnal nevropatologii i psikiatrii imeni S.S.Korsakova (Moskva)*. 71(12):1877-1879, 1971.

An ampullized form of the Hungarian preparation Seduxen (diazepam) was used in 26 patients with epileptic status. Twenty of the patients had so-called genuine epilepsy and 6 had symptomatic epilepsy. The drug was administered intravenously and intramuscularly and it was possible to arrest the condition in 24 cases. It is concluded that this form of Seduxen is highly effective in patients with epileptic status. The advantage of this preparation may be in the fact that, by arresting the epileptic coma, it permits transfer of the patient to oral intake of other anticonvulsive drugs. Its high effectiveness may also render it an important preparation for prevention of epileptic status. 10 references. (Journal abstract modified)

114476 Gazzaniga, G.Carlo; Terzi, G.Fermo. Ila Divisione Neurologica, Ospedale Maggiore, Bergamo, Italy /Clinical study on a new psychopharmacological agent: piperonyl./ Ricerche cliniche su di un nuovo psicofarmaco: il piperonyl. *Riv.Sper.di Freniatria e Med.Legale delle Alienazione Ment.(Reggio Emilia)*. 95(4):799-807, 1971.

Administration of piperonyl in average daily doses of 480mg per day produced good response

in 5 of 10 patients with dissociation syndrome, 3 of 8 with acute delirium, 6 of 11 with chronic delirium and 5 of 24 hypochondriacs. Optimal response was obtained only in 2 with acute delirium and 16 hypochondriacs. There was slight response in a total of 11 patients and no response in 9. Treatment was particularly effective against hallucinations, sleep disorders and anxiety while mood disorders improved only slightly. Treatment lasted 30 days. Some of the ambulatory patients were treated with an average of 240mg daily. Side-effects, such as diurnal somnolence and asthenia, regressed spontaneously after 7 to 10 days of treatment and did not require the cessation of treatment in any instance. 7 references.

115611 Brady, John Paul. University of Pennsylvania School of Medicine, Philadelphia, PA Drugs in behavior therapy. In: *Masserman, J., Current psychiatric therapies*. New York, Grune & Stratton, 1971. 224 p. (p.86-93).

The use of drugs in behavior therapy is discussed as a promising area for the development of new and powerful treatment procedures in spite of relatively little systematic exploration of the area. Two general procedures of wide clinical application are described, the use of malaise producing drugs in conditioned aversion therapy and the use of antianxiety drugs to facilitate systematic desensitization therapy. Additional applications are mentioned. It is concluded that knowledge of specific drug behavior interactions may be employed in behavior modification procedures to facilitate the learning of more adaptive behavior. 46 references.

116810 Pahnke, W.N.; Kurland, A.A.; Unger, S.; Savage, Ch.; Grof, S. Maryland Psychiatric Research Center, Baltimore, MD 21228 The experimental use of psychedelic (LSD) psychotherapy. *Intern.J.of Clinical Pharmacology, Therapy and Toxicology (Munchen)*. 4(4):446-454, 1971.

The usefulness of psychedelic (LSD, lysergic acid diethylamide) psychotherapy in alcoholic patients, patients with a terminal malignancy, chronically ill psychoneurotics, narcotics abusers, and character disorders is discussed. A case history of LSD treatment of a patient with terminal malignancy is presented. LSD is not a substitute for skilled psychotherapy. LSD can enhance psychotherapy when integrated with an intensive psychotherapeutic program of sufficient duration (30 to 50 hours). Chromosomal aberration rates

for LSD users are presented. Psychotic, cognitive, aesthetic, psychodynamic, and transcendental psychedelic experiences are described. 23 references.

117023 Varga, Ervin; Simpson, George M. Rockland State Hospital, Orangeburg, NY 10962 Loxapine succinate in the treatment of uncontrollable destructive behavior. *Current Therapeutic Research*. 13(12):737-742, 1971.

The use of loxapine succinate in the treatment of uncontrollable behavior in eight mentally retarded and eight schizophrenic hospital patients is reported. Patients were selected for the study who were refractory to other neuroleptics and required physical restraints to curb their constant self-destructive behavior. Mild improvement was noted in the majority of the patients with a somewhat greater amount of improvement in three schizophrenics. In general, the mentally retarded group received lower dosages of loxapine than the schizophrenic group as they seemed to be more susceptible to severe drowsiness even at low dosages. Grand mal seizures occurred in three epileptic patients and progressed to status epilepticus in one. The most frequent side effects were extrapyramidal in nature, and were controlled with the use of antiparkinson medication. Laboratory and physical measures were essentially within normal limits. It was concluded that loxapine demonstrated active antipsychotic activity, beneficial in schizophrenia, but less so in mentally retarded patients. Uncontrollable, self-destructive behavior was not notably benefitted in this study. Two illustrative case histories are appended. 2 references. (Author abstract modified)

118717 Wong, G.H.; Cock, R.J. Travancore Clinic, Melbourne, Australia Long-term effects of haloperidol on severely emotionally disturbed children. *Australian and New Zealand Journal of Psychiatry (Carlton, Australia)*. 5(4):296-300, 1971.

A controlled double-blind study of haloperidol in 30 children suffering from severe emotional disorders was attempted. Toxic and side-effects and reduction of symptoms were observed over a prolonged period of medication. A battery of tests was designed to study any adverse effects on development and learning processes. The conclusions reached indicated that at an overall level and in terms of diagnostic categories, no statistical significance was established when compared with placebo. However, haloperidol is signifi-

cantly superior to placebo in ameliorating particular symptoms, is a relatively safe drug, and does not impair intellectual functioning and learning tasks. 9 references. (Author abstract)

121476 Rickels, K.; Hesbacher, P. University of Pennsylvania, Philadelphia, PA 19104 A working model of clinical research in private practice. In: Vlnar, O., *Advances in Neuropsychopharmacology*. Amsterdam, North-Holland Publishing, 1971. (p.237-243).

Three different treatment settings were used to illustrate the differential responses produced by antianxiety agents. There were three treatment groups totaling 472 patients as follows: 190 patients in the medical clinic group; 135 patients in the general practice group; and 147 patients in the psychiatric practice group. The drugs used were diazepam, phenobarbital sodium, and placebo. The clinic patients differ most significantly from both private practice populations in terms of social class and such class related variables as race, marital stability, and realization of having emotional rather than somatic problem. Clinic and general practice patients differ most markedly from psychiatric practice patients in their treatment expectations and their response to previous drug therapy. The private psychiatric patients tend to be the sickest population. General practice and private psychiatric practice patients drop out of the study and deviate from dosage significantly less frequently than clinic patients. Side-effects are more frequently reported by general practice patients than by either clinic or private psychiatric patients. The largest drug placebo differences, as measured by the Physician Questionnaire, are found in general practice, next in psychiatric practice, and least in clinic patients. Clinic patients tend to improve the most with phenobarbital and psychiatric patients with diazepam. 6 references.

122393 Durand, J.; Dalayeun, J.; Claisse, R. Service de Medecine et de Readaption Medicale, Hopital Raymond-Poincare, 92, Garches, France /Percutaneous dexamethasone and functional rehabilitation in neurological disorders./ *Dexamethasone percutanee et reeducation fonctionnelle en neurologie. Therapeutique (Paris)*. 47(10):867-870, 1971.

Percutaneous administration of dexamethasone was used in connection with the rehabilitation of patients with various neurological diseases. The

action of the drug was tested in two areas that were important determinants of the patient's progress: algisia and trophism. Pain was evaluated at five different levels: when occurring only at the end of an active or passive movement; in the course of mobilization of motion; at indefinite points during motion; during rest; and during the night, causing awakening. Difficulties in feeding were judged in terms of intensity. For the first five days, administration of the drug was at the rate of two ampules (each containing 1mg of the active ingredient), b.i.d., followed by two ampules daily for 25 days. In some cases, a continuation of treatment or a premature halting of treatment was indicated. Of 49 cases, 20 gave very good responses; 17, good; 11, moderate; and one did not respond, when evaluated in terms of the analgesic effect. In terms of trophism, out of 20, 10 gave very good responses; eight, medium; and two were not responsive. Tolerance was generally excellent, but topical intolerance was observed in three patients whose treatment had to be discontinued.

122946 Bukowczyk, A.; Korta, B.; Michalska, M.; Spisla, B.; Trzeciakowa, O.; Brys, J. Klinika Psychiatryczna AM, ul.Kraszewskiego 25, Wrocław, Poland /Assessment of the clinical action of the preparation TPN 12 Sandoz in the treatment of mental disturbances./ Ocena kliniczna działania preparatu TPN 12 Sandoz w leczeniu zaburzeń psychicznych. *Psychiatria Polska (Warszawa)*. 5(5):571-575, 1971.

Treatment with the preparation TPN 12-Inofal (Sandoz) was administered to a sample of 88 patients with schizophrenia, depression, delusional syndromes, and reactive and alcoholic psychoses. The drug was administered first intramuscularly and then orally for 28 to 119 days in doses not exceeding 400mg daily. The preparation appears to be effective in the treatment of schizophrenic psychoses. The methodological value of the vial form is stressed, and it is suggested that the efficacy of the drug in depression should be investigated further. (Author abstract)

122951 Szlykiewicz, Jozefa Krystyna. Klinika Chorob Psychiczych AM, ul.Debinki 7, bud.25, Gdansk 6, Poland /Characteropathic changes and expressive aphasia in a child with congenital agenesis of the septum pellucidum./ Zmiany charakteropatyczne i afazja ekspresyjna u dziecka z wrodzonym brakiem przegrody przezroczystej. *Psychiatria Polska (Warszawa)*. 5(5):611-614, 1971.

A case of intensive characteropathy and motor aphasia in a boy aged 5-years-old with congenital agenesis of the septum pellucidum is presented. During observation, such intense characteropathic features as obstinacy, irritability, and tendency to pettiness were manifested. The child displayed a euphoric mood and maintained syntonic contact. Although there was no verbal contact and he did not speak, his comprehension was good and he fulfilled almost all verbal commands. Treatment with carbamazepine was ineffective, but the application of perimetrazine in daily dosages of 75mg caused some decrease in the motor excitation and aggressiveness of the child. 5 references.

123889 Bilikiewicz, Tadeusz. Klinika Chorob Psychiczych AM, Debinki 7, Gdansk, Poland /Treatment of epilepsy as a psychiatric problem./ Leczenie padaczki jako problem psychiatryczny. *Neurologia i Neurochirurgia Polska (Warszawa)*. 5(3):289-294, 1971.

In general practice, the pharmacological treatment of epilepsy is restricted to the prescription of phenobarbital and some other outdated drugs. Phenobarbital should be banned since it causes barbiturate dependence, and its harmful effect on the personality is evident. Soporifics are contraindicated because of their unfavorable effect on work therapy. It is the duty of the physician not only to control seizures but to ensure for the patient, and particularly for the child, the possibility for normal personality development. At the outset of treatment, the physician must establish the cause of the seizure phenomena and epileptic personality disturbances. Administration of anticonvulsants alone, without elucidation of causal factors and without differential diagnosis, is insufficient. Gross brain damage requiring neurosurgical intervention may underlie seizure phenomena and personality disorders. A knowledge of the psychopathology of epileptic phenomena permits early diagnosis of brain tumor even before the appearance of neurological symptoms and signs of tumor. (Author abstract)

123892 Bittner-Manicka, Maria; Wasilewski, Ryszard. Klinika Neurologiczna AM, Lindleya 4, Warsaw, Poland /Usefulness of sulthiamine in the treatment of epilepsy./ Przydatność ospolotu w leczeniu padaczki. *Neurologia i Neurochirurgia Polska (Warszawa)*. 5(3):351-356, 1971.

Sulthiamine was administered to 57 epileptic patients in daily dosages of 200 to 1000mg. In four cases, sulthiamine was the sole medication em-

ployed, while it was used in combination with phenobarbital, diphenylhydantoin, or primidone in the remaining cases. Clinical improvement was obtained in four cases treated with sulthiamine alone and in 49% of patients who received combined treatment. The drug was not found to have any effect on seizure activity, and no psychotropic action was manifested. 16 references. (Author abstract)

**125703 Ritzel, Gunther.** D-34 Gottingen, Von-Siebold-Str.5, Germany /Antandrogen therapy with cyproterone acetate in child and adolescent psychiatry. An overview of results achieved./ Zur Antandrogentherapie mit Cyproteronacetat in der Kinder- und Jugendpsychiatrie. Eine Übersicht über bisherige Erfahrungen. *Praxis der Kinderpsychologie und Kinderpsychiatrie (Göttingen)*. 20(5):165-169, 1971.

Past experience shows that the treatment of sexual deviation and misconduct is feasible after puberty. Although reversibility of the biochemical effect after short term therapy seems assured, prolonged treatment may cause irreversible damage to the testes. Indications for treatment include abnormal sexual behavior in cases where short term therapy achieves rapid reduction of sexual activity and relaxation of social conflict. In the case of serious sexual deviation, antiandrogen therapy over longer periods may be risked as the smaller of two evils. Therapy reduces total sexual drive, but cannot achieve basic personality modifications at the root of deviations. In the absence of longitudinal studies, any reports of gradual unlearning of perversions should be treated with caution. 38 references. (Author abstract modified)

**125996 Wajsbort, J.; Hemli, J.A.; Alfandary, I.; Yahel, M.; Siegfried, J.** Kupath Cholim, Haifa, Israel /Clinical observations on the composite treatment of Parkinson's syndrome with L-dopa and the decarboxylase inhibitor Ro 4-4602./ Klinische Beobachtungen über die Kombinationsbehandlung des Parkinson-Syndroms mit L-Dopa und dem Decarboxylasehemmer Ro 4-4602./ *Wiener Medizinische Wochenschrift (Wien)*. 121(42):741-745, 1971.

Fourteen Parkinson patients were treated with L-dopa and the decarboxylase inhibitor Ro 4-4602 and observed for four to 19 months. Dosage fluctuated between 600 and 1800mg L-dopa and 30 to 150mg inhibitor per day. Even small doses of in-

hibitor sufficed to reduce daily intake of L-dopa with good clinical results. The small number of patients does not permit generalization. There may be cases that require ratios of 1:10 up to 1:4 of inhibitor and L-dopa. Therapeutic resistance is probably due to loss of anatomic substrate for dopamine function. Two thalamotomized patients gave evidence for such a conclusion. 26 references. (Author abstract modified)

**126007 Schwingenheuer, J.** 4788 Warstein, Postfach 26, Germany /Alternate application of Melleril-Sandoz (thioridazine) and its metabolite Inofal in psychiatric therapy./ Alternierender Einsatz von Melleril-Sandoz (Thioridazin) und seinem Metaboliten Inofal in der psychiatrischen Therapie. *Medizinische Welt (Stuttgart)*. 22:1718-1720, 1971.

Thioridazine, used for many years in stationary and ambulant treatment, has been given a valuable complement in its metabolite Inofal (tested clinically as TPN-12). Thioridazine is the drug of choice in subacute psychic processes and in long-term therapy. Inofal is indicated in acute psychiatric emergencies (intramuscular or intravenous application), in protracted tension and excitation states, as well as in connection with pronounced fixed inhibition phenomena (oral application). Alternate dispensation should be matched with the existing symptomatology. The alternate application of Melleril-Sandoz (Thioridazine) and its metabolite Inofal in psychiatric therapy is presented. 21 references. (Author abstract modified)

**126008 Berzewski, H.** Klinikum Steglitz der Freien Universität, 1 Berlin 45, Hindenburgdamm 30, Germany /Treatment of neuropsychiatric disorders with pyridine-beta-carbonic acid. Part II./ Die Behandlung neuro-psychiatrischer Erkrankungen mit Pyridin-Beta-Carbonsäure (II). *Medizinische Welt (Stuttgart)*. 22:1705-1709, 1971.

Nicotinic acid was used successfully in the treatment of the brain organic syndrome. Best results were achieved in the areas of affectivity, concentration, drive and mood, as well as in improving vegetative complications. Responses were more favorable when cerebral sclerosis was diagnosed. Remarkable improvement was noted in the early stages of organic cerebral deterioration and in chronic alcoholism. Cerebral atrophy and dementia were not reversed, although isolated cases were saved from permanent hospitalization. Endogenous depressions, paranoid hallucinating

psychoses and transitional syndromes remained practically unaffected. Nicotinic acid seems to prevent delirium in older patients treated with antidepressants, and yet improves the clinical picture of resistant depressions. Side effects were relatively innocuous; flushing of the skin with subjective feeling of heat, prickling and burning has been reported. About 10% of treated patients developed an arterial hypotensive reaction; about 5% complained of nausea and vomiting. A timed release application is recommended for prolonged treatment. The treatment of neuropsychiatric disorders with pyridine-beta-carbonic acid is presented.

## 12 PSYCHOTOMIMETIC EVALUATION STUDIES

069047 Kapadia, Govind J.; Favez, M. B. E. College of Pharmacy, Howard University, Washington, D. C. 20001 Peyote constituents: chemistry, biogenesis, and biological effects. *Journal of Pharmaceutical Sciences*. 59(12):1699-1727, 1970.

Historical use of the hallucinogenic drug, peyote, is traced, and its chemical constituents are identified. The biogenesis of peyote alkaloids is discussed based on various research findings, as well the biological effects of such compounds on the cardiovascular and respiratory systems and behavior patterns of animals and humans. Addiction habituation, and tolerance to mescaline and the active hallucinatory principle of peyote, are also treated, along with mescaline metabolism and structure - activity relationships and chemical derivatives. Finally, analytical methods used in detection and identification of mescaline and related compounds are discussed. 435 references.

071566 Snyder, Solomon H.; Weingartner, Herbert; Faillace, Louis A. Dept. of Pharmacology, Johns Hopkins University School of Medicine, 725 N. Wolfe St., Baltimore, Maryland 21205 DOET (2,5-dimethoxy-4-ethylamphetamine), a new psychotropic drug: effects of varying doses in man. *Archives of General Psychiatry*. 24(1):50-55, 1971.

DOET (2,5-dimethoxy-4-ethylamphetamine) is a new psychotropic agent which chemically resembles mescaline and amphetamine; its psychological and physiological effects in various dosages are assessed in an experiment. It is essentially the ethyl homologue of DOM (2,5-dimethoxy-4-methylamphetamine), a psychotomimetic drug widely used by hippie populations and designated

STP. DOET was administered to normal male subjects in doses ranging from 0.75 to 4mg and contrasted with effects of a water placebo. In all cases DOET produced subjective effects including a mild euphoria, a feeling of enhanced self-awareness, and a tendency to feel anxious at higher doses. Although there was some increase in subjective effects at higher doses, this was not marked. No hallucinogenic or psychotomimetic effects were observed at any dose. Thus, over a 5 fold range of pharmacologically active dosage, the enhanced awareness produced by DOET was not associated with psychotomimetic or hallucinogenic actions. 12 references. (journal abstract modified)

072262 McGlothlin, William H.; Arnold, David O. Dept. of Psychology, University of California, 405 Hilgard Avenue, Los Angeles, Calif. 90024 LSD revisited: a ten-year follow-up of medical LSD use. *Archives of General Psychiatry*. 24(1):35-49, 1971.

A followup survey of 247 persons who received d-lysergic acid diethylamide (LSD) in either an experimental (nonmedical) or psychotherapeutic setting was made to determine the lasting effects, if any, related to use of the drug. Information was collected from each by a structured interview and self-administered questionnaire. Some subsequent nonmedical use of LSD was reported by 23%, who attributed more personality changes to the drug's use. There is, however, little evidence that measurable, lasting personality, belief, value, attitude, or behavior changes were produced in the sample as a whole. Compulsive patterns of LSD use rarely developed; the nature of the drug effect apparently is such that it becomes less attractive with continued use and, in the long term, is almost always self-limiting. 26 references. (journal abstract)

073413 Leary, Timothy. author address not given And the prisoners will become priests: the convicts break out. In: MacNamara, D., *Perspectives on correction*. New York, Thomas Y. Crowell, 1971. 277 p. (p. 126-154).

New approaches to rehabilitation of convicts in a prison in Concord, Mass., through the use of psychedelics are described. The experiment centered around sessions with psilocybin 2 or 3 times a week. Personality tests were administered to participants at the beginning of the experiment and after the third session. Results showed less

depression, hostility, and antisocial tendency, and more energy, responsibility, and cooperation. The project, originally administered by a Harvard professor and graduate students, was eventually run by the convicts themselves. As the men came up for parole, the psychedelic group gave them the family type of support in finding jobs and housing and meeting parole requirements that most of them needed. Some of the awe and fantasy experienced by the prisoners as reactions to psilocybin are described. 3 references.

**078958** Weingartner, Herbert; Snyder, Solomon H.; Faillace, Louis A. Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, Baltimore, Maryland DOM (STP), a new hallucinogenic drug: specific perceptual changes. *Journal of Clinical Pharmacology and New Drugs*. 11(2):103-111, 1971.

Specific perceptual changes associated with a new hallucinogenic drug, DOM (2,5-dimethoxy-4-methylamphetamine) are investigated. (The drug has been labeled STP by the hippie population.) DOM in low doses, 3.3 and 2.7 mg, was administered to 6 adult males and contrasted with the effect of a placebo, water, in a double-blind experiment. The study focused on how DOM might influence perceptual processes, the judgment of line length at short exposure (1/100, 1/50 and 1/10 second) of thematic apperception test stimuli. DOM did not affect a relatively simple perceptual response, judgment of line length, but did produce marked alterations in the identification of complex stimuli at short exposure. The changes in the perception of complex stimuli disappeared as exposure time was increased. 24 references. (Author abstract modified)

**083378** Leuner, H. Psychiatrische Klinik der Universität Göttingen, Göttingen, Germany /Behavioral research and experimental psychosis./ *Verhaltensforschung und experimentelle Psychose. Bibliotheca Psychiatrica (Basel)*. No. 147:164-176, 1971

In experimental psychosis with high doses of LSD-25, psilocybin, or mescaline, impulsive behavior is sometimes observed which is characterized by the fact that the established, finely differentiated affective hierarchy is transcended and innate elements appear naked and without reference to the surroundings. This temporary intoxication in a healthy subject whose personality structure has been thoroughly investigated pro-

vides unexpectedly informative insights into the close interlocking of individual motives with behavior patterns imprinted on the matrix of earlier, inherited correlations. According to the theory of instincts, these can easily be interpreted as skipping and/or free-wheeling, using up their energy in performed actions. 21 references. (Journal abstract)

**089184** Mikuriya, Todd H. Author address not given Cannabis as a treatment for alcoholism. *Psychodelic Review*. 11:71-73, 1971.

A 49 year old woman with confirmed alcoholism of many years' standing substituted smoking cannabis for alcohol. After about 5 months a marked improvement both psychosocially and in physical health resulted. The euphoric effect of cannabis was equal to and preferable to that of alcohol. The optimal amount of cannabis smoking required for maintenance of this improved status was empirically established by the patient herself. Abstinence from alcohol was achieved with the help of Antabuse. In contrast to excessive alcohol ingestion, which produces predictable weakening and dissolution of various superego and ego functions, cannabis provides an increase in ego strength and is not associated with irritability and severe gastrointestinal disturbance. It would appear that for selected alcoholics, the substitution of smoked cannabis for alcohol may be of considerable rehabilitative value. 1 reference.

**089185** Pahnke, Walter N. Author address not given The psychedelic mystical experience in the human encounter with death. *Psychodelic Review*. 11:4-13, 1971.

An important and profound psychological experience is lost by avoidance of personal participation by the patient and immediate family in the process of death. A useful example is given in the case of the terminal cancer situation which involves the manifestation of underlying fear of the unknown. Withholding facts regarding imminent death leads to a more desperate situation, increases the patient's psychological isolation, and leads to fear and depression. A psychedelic experience associated with LSD treatment is perhaps the most valuable method of handling a dying person. This is associated with positive ego transcendence to achieve unity or Oneness. LSD treatment in 17 patients with terminal cancer has resulted in 33% not particularly helped; 33%, somewhat helped; and 33% dramatically helped.

LSD in the psychedelic mystical experience has the potential for opening channels and untapped resources of positive feeling which may have been previously closed. Fear of death is transcended and death becomes just another step in the life process. LSD as used in psychedelic therapy is thus not just another chemotherapeutic drug to achieve an euphoric death by increasing doses of analgesics and associated dulling of consciousness. 10 references.

089186 Beecher, Henry K. Harvard Medical School, Boston, Massachusetts /A physician's response to the psychedelic experience in the death encounter./ Response to Pahnke lecture by a physician. *Psychedelic Review*. 11:15-17, 1971.

Reference is made to the article by Dr. Pahnke on psychedelic drugs and alleviation of the death encounter. Two major areas may present pitfalls to which attention is directed: the conclusions can be based only upon sound methodology; and the individual's privacy must be safeguarded even in the last hours. What has been presented is not facts, but an area of hope. The results recounted are based entirely upon subjective responses and symptoms, and conclusions are drawn without the use of mandatory controls. In a meaningful evaluation of LSD, it must be known whether it is the LSD or the strong suggestion which precedes the drug which is operant in this situation; the powerful action of the placebo has been unequivocally demonstrated. Apart from the serious difficulties stemming from the established potential dangers of LSD as a drug, there are those possibly arising from violations of privacy. Man has the right to die as well as the 'right to be let alone'. The study of dying could threaten privacy, and we must be certain that enthusiasm for scientific investigations does not overshadow this precept of privacy. In Dr. Pahnke's study there is clearly no threat of unreasonable invasion of privacy, but the potential dangers must not be overlooked. 8 references.

090690 Langs, Robert J. Roslyn Heights, New York /Altered states of consciousness: an experimental case study. *Psychoanalytic Quarterly*. 40(1):40-58, 1971.

An experimental case study of altered states of consciousness is reported. A study of earliest childhood memories reported in the waking state and in the altered state by a subject selected because of the archaic state of consciousness he

experienced under lysergic acid diethylamide (LSD) is described. The subject was selected also because of the series of regressive shifts observed in the Ss earliest memory recall under LSD, which included the revelation of a screened memory. Some of the conclusions drawn from these observations are: 1) waking earliest memories can be related to central personality attributes and anxieties; this may also be true of earliest memories reported in altered states; 2) in the altered state, there appears to be both a change in the ego function of consciousness, particularly in its role as the distributor of attention cathexis, and in the mental contents most likely to be cathected by attention; 3) differences in the cognitive organizations prevailing at 2 levels of consciousness could be detected in the subject; 4) the screened memory revealed in the altered state of consciousness suggests that memory work is done by the ego to revise a traumatic experience into a less threatening memory, allowing for repression of the trauma. This repression was lifted by the changes in the mental apparatus caused by the drug induced altered state of consciousness. Implications are drawn from the observations and hope is expressed that the reported research may contribute certain refinements to the psychoanalytic conception of states of consciousness and that it will lead to more careful research in which the role of individual differences and that of psychopathology receive greater attention. 31 references. (Author abstract modified)

092160 Oswald, Ian; Lewis, S. A.; Dunleavy, D. L. F.; Brezinova, Vlasta; Briggs, Marion. Department of Psychiatry of the University of Edinburgh, Royal Edinburgh Hospital, Edinburgh EH10 5HF, Scotland /Drugs of dependence thought not of abuse: fenfluramine and imipramine. *British Medical Journal* (London). 3(5766):70-73, 1971.

A study is made of 2 drugs of dependence though not of abuse; fenfluramine and imipramine. Measures of subjective feeling used by 5 patients indicated that depression of mood occurred about 4 days after fenfluramine withdrawal. An experiment in which another 11 patients took fenfluramine 80 mg for 28 days confirmed the depression, maximal on the fourth withdrawal day. It also indicated that in the first week of administration there was some mood elevation, but with feelings of impaired ability to concentrate. The drug reduced appetite and

weight. A comparison is drawn with imipramine, which was found to induce initial and withdrawal changes of subjective experience (of dreaming) in 6 volunteers. It is suggested that certain mood influencing drugs may not be drugs of abuse because of some unpleasant initial effects, though they can be drugs of dependence. 11 references. (Author abstract modified)

**098888** Cheek, Frances E.; Holstein, Carolyn, M. New Jersey Neuropsychiatric Institute, Princeton, New Jersey Lysergic acid diethylamide tartrate (LSD-25) dosage levels, group differences, and social interaction. *Journal of Nervous and Mental Disease*. 153(2):133-147, 1971.

Four exploratory studies of the effects of lysergic acid diethylamide tartrate (LSD-25) on social behaviors (measured with the Bales Interaction Process Analysis) showed definite changes in all subject groups. The interaction of 4 4 person continuing groups, including a group of reformatory inmates, 2 groups of alcoholics, and a group of chronic schizophrenics, was examined in drug and placebo sessions. For 3 groups, the reformatory inmates, one group of alcoholics, and the group of schizophrenics, dosages of 25, 50, 75, and 100 micrograms were administered. For the second group of alcoholics, dosages of 100 and 200 micrograms were given and the interaction was studied in both morning and afternoon sessions. Some changes were related to dosage level and were similar across groups. For instance, total interaction rose at lower dosages, seemed to level out at slightly higher dosages, and decreased at the high dosage administered. However, some changes with dosage level appeared to reflect the composition of the group. For example, the behaviorally aggressive reformatory inmates showed increased negative social emotional behaviors, the 2 alcoholic groups rose in positive social emotional behaviors, while the schizophrenics tended to rise in both positive and negative behaviors with rising LSD dosages. Self-analytic behavior rose markedly at the higher dosages, but only in the alcoholic group, which received 100 and 200 micrograms so that it was unclear whether group composition was significant in this case. These dosage and group composition related findings served to explain some contradictory findings of earlier studies and suggest important implications for both the therapeutic and illicit uses of LSD-25. 13 references. (Author abstract modified)

**098919** Baker, P. C. Department of Biology, Cleveland State University, Cleveland, Ohio 44115 LSD: its effects upon 5-hydroxytryptamine in embryonic development of *Xenopus laevis*. *Experientia (Basel)*. 27(5):536-537, 1971.

The 5-hydroxytryptamine levels of embryos of *Xenopus laevis*, the South African clawed toad, were affected with an LSD dose of .06mg/ml for 6 hours, although only at the neurula exposure time. These changes were not transitory toxic reactions since they were demonstrable 7 and 5 days following drug application. Because the sensitive periods for whole embryo and brain differ, it was concluded that whatever regulatory mechanisms are affected by the drug must somehow differ in whole embryo and brain. 25 references.

**099307** Malleon, Nicolas. Research Unit for Student Problems, University of London, 20 Gower Street, London W. C. 1, England Acute adverse reactions to LSD in clinical and experimental use in the United Kingdom. *British Journal of Psychiatry (London)*. 118(543):229-230, 1971.

The survey of United Kingdom experience with LSD in clinical work covers approximately 4,300 subjects with a total of some 49,500 LSD sessions. There was an attendant suicide rate of 0.7 per 1,000 patients, a rate of 9 per 1,000 patients for psychosis lasting for more than 48 hours (from which some two thirds recovered fully), and an accident rate of 2.3 per 1,000 patients. The following conclusion is probably justified -- treatment with LSD does give rise to acute adverse reactions, but if there is adequate psychiatric supervision and proper conditions for its administration the incidence of such reactions is not great. 3 references. (Author abstract modified)

**099337** Fujimori, Masamoto; Alpers, Hilma S. Thudichum Psychiatric Research Laboratory, Galesburg State Research Hospital, Galesburg, Illinois 61401 Psychotomimetic compounds in man and animals. In: *Himwich, H., Biochemistry, schizophrenia, and affective illnesses*. Baltimore, Williams and Wilkins, 1971. 500 p. (p. 361-413).

Experimental psychotic states, as induced in normal subjects with drugs like mescaline and d-lysergic acid diethylamide, are discussed. Such studies have permitted evaluation of various biochemical hypotheses of behavioral illnesses. The catecholamine hypothesis suggests abnormal epinephrine metabolism as underlying schizophrenia; more recently, other workers have

avored the etiologic importance of indoleamines. Worsening of schizophrenic states has been related to increased urinary excretion of tryptamine. The cannabinol group of products is also discussed. Marihuana, a member of this group, seems to provide strong subjective experiences primarily for regular users; in small amounts it seems to act as a sedative, but in large doses it tends to resemble the other psychotomimetics. Behavioral studies in animals are presented. Neurophysiologic and pharmacologic studies are detailed. 253 references.

102193 Dittrich, A. Psychiatrische Universitätsklinik, Forschungsabteilung, Lenggstrasse 31, CH-8008 Zurich, Switzerland Alteration of behavioural changes induced by 3,4,5-trimethoxyphenylethylamine (mescaline) by pretreatment with 2,4,5-trimethoxyphenylethylamine: a self-experiment. *Psychopharmacologia (Berlin)*. 21(3):229-237, 1971.

In a study conducted under double-blind conditions and using several psychological tests to assess drug effects, it was found that pretreatment with 2,4,5-trimethoxyphenylethylamine potentiates the effects of mescaline (3,4,5-trimethoxyphenylethylamine). The subject studied was a 29 year old clinical psychologist. The 2,4,5-trimethoxyphenylethylamine alone proved to have no psychotomimetic properties. 20 references. (Author abstract modified)

102535 Angrist, B.M.; Shopsin, B.; Gershon, S. Neuropsychopharmacology Research Unit, Department of Psychiatry, New York University Medical Center, New York 10016 Comparative psychotomimetic effects of stereoisomers of amphetamine. *Nature (London)*. 234(5325):152-153, 1971.

Racemic amphetamine and the d and l isomers were administered to 3 subjects to study the differential behavioral response to them which might provide clues to psychotogenic mechanisms. The intensity of symptomatology and dose response relationships do not support the idea that noradrenergic mechanisms are critical in precipitating amphetamine psychosis. The mean dose of d-amphetamine given to 3 subjects was 418mg and that of the l isomer was 510mg -- both induced comparable syndromes in the 3 subjects. This suggests that noradrenergic mechanisms are not the most critically important factor in amphetamine psychosis, and further studies should be focused

on the role of dopaminergic or other non-stereospecific mechanisms. Moreover, the fact that dose response relationships indicate a psychotogenic potency for the d and l isomers of amphetamine of the order of between 1 and 2 to 1 suggests that animal stereotypy, in which dose response relationships are of the same order, should be utilized as an animal model for the human stimulant psychoses. The fact that drugs which antagonize amphetamine stereotypy in animals also tend both to be useful neuroleptics in the treatment of schizophrenia and, in addition, cause a Parkinsonian syndrome in humans also suggests that subsequent investigators focus on the role of dopaminergic mechanisms in naturally occurring psychoses -- especially those in which paranoid symptoms are prominent. 16 references.

102838 Bos, P. Masarykova 1329, Teplice 11, Czechoslovakia /Use of lysergic acid diethylamide in child psychiatry./ Vyuziti LSD v detske psychiatrii. *Ceskoslovenska Psychiatrie (Praha)*. 67(4):237-241, 1971.

The experiences of an Argentine child psychiatrist and others in the use of lysergic acid diethylamide primarily in psychotic children as an aid in psychotherapy or as a sole means of medicinal treatment are encouraging, despite the existence of certain possible genetic risks. In a test with children in Czechoslovakia in 1967, an attempt was made to analyze lysergic acid diethylamide intoxication. The first subject was a child aged 6 years with pseudodeficits. Intoxication progressed roughly in 3 phases. In a patient aged 14 years, severe regressive behavior was noted. In the case of a child aged 3 who received lysergic acid diethylamide, the mother was a schizophrenic. The child urgently sought tactile contact. Towards the end of the session, he verbalized and overcame his fear of water, which leads to psychotrauma in early childhood. These and similar experiments have led Czech researchers in the field to study the dynamics of regression, the early structure of childhood personality, and the possibilities of intensive utilization of psychotogens. 23 references.

104362 Kiplinger, Glenn F.; Manno, Joseph E.; Rodda, Bruce E.; Forney, Robert B. Auburn University, School of Pharmacy, Auburn, Ala. 36830 Dose-response analysis of the effects of tetrahydrocannabinol in man. *Clinical Pharmacology and Therapeutics*. 12(4):650-657, 1971.

Fifteen volunteers smoked marihuana cigarettes under controlled laboratory conditions on 5 occasions. The cigarettes were calibrated to deliver doses of 0, 6.25, 12.5, 25, and 50 micrograms per kilogram of delta(9)-tetrahydrocannabinol (THC). A randomized block, double-blind design was used. It was found that motor and mental performance as well as stability of stance deteriorated in a linearly dose dependent fashion. Heart rate and conjunctival redness increased with dose, as did scores on sensation and mood questionnaires. 11 references. (Author abstract)

107512 Ohnesorge, F.K. Abt.fur Toxikologie, Institut fur Pharmakologie, Christian Albrecht Universität, Hospitalstr. 4-6, 23 Kiel, Germany / Pharmacological action mechanisms of narcotic agents. / *Pharmakologische Wirkungsmechanismen von Rauschmitteln. Öffentliche Gesundheitswesen (Stuttgart)*. 33(7):413-420, 1971.

The present state of knowledge of the pharmacological causes of acute effects of narcotic drugs and the reasons for the development of dependence and the occurrence of withdrawal symptoms are discussed. The following classes of substances are mentioned: drugs with an effect similar to that of morphine; drugs with an effect similar to that of barbiturates; cerebral stimulants of the amphetamine type; and psychedelics such as tetrahydrocannabinol, LSD, mescaline, BOL, DOM and DOET. (Author abstract modified)

109010 Sokolik, Zbigniew. Marszałkowska 140/149, Warsaw, Poland Psychotherapy with psychodysleptics. *World Journal of Psychosynthesis*. 3(10):41-42, 1971.

Use of LSD 25 to intensify emotional reactions during psychotherapy with neurotic patients is discussed. Success is based on a special kind of emotional contact between the therapist and the patient, with transference much more intensive than in therapy without psychodysleptics. Two different techniques of combining LSD with psychotherapy are: 1) using individual or group psychotherapy during intoxication, at the end of it, or immediately after to intensify the emotionality in therapy; and 2) psychotherapy before the intoxication to prepare the patient and guide his emotions in the right way, with the emotional peak reached during intoxication. Experiences with 162 patients over 2 years resulted in physician valuations that 60% of the patients had greatly improved; 33% showed no improvement

and 7% showed deterioration. In valuations by the patients, 64% reported increased satisfaction in every day life and 24% reported increased sexual satisfaction. Chromosomal damage in normal cures is termed insignificant. 8 references.

111962 Aaronson, Bernard; Osmond, Humphrey. author address not given Psychedelics: the uses and implications of hallucinogenic drugs. Hogarth Press, 1971. 512 p.L3.15.

The psychedelic experience and its relationship to different societies, religion, mental order and disorder, and hypnosis and meditation are discussed. A chapter on therapeutic applications ranges from individual and group psychotherapy, through alcoholism, to concepts of death and architectural design. Hallucinogenic drugs are discussed in an approving manner, with several accounts containing more criticism of society than of drug taking as a means of opting out of society. This is the first volume of a series on the science of human behavior.

### 13 MECHANISM OF ACTION: PHYSIOLOGICAL, BIOCHEMICAL AND PHARMACOLOGICAL

069320 Hollister, Leo E. Veterans Administration Hospital, Palo Alto, California Hunger and appetite after single doses of marihuana, alcohol, and dextroamphetamine. *Clinical Pharmacology and Therapeutics*. 12(1):44-49, 1971.

Results of 2 experiments to determine the effects of marihuana, alcohol, and dextroamphetamine on hunger and appetite are reported. The 2 separate experiments indicated that in most subjects, after oral administration of marihuana, total food intake, as well as reports of hunger and appetite, are increased. Drugs, such as dextroamphetamine and, to a lesser extent, alcohol reduced food consumption and appetite. Stimulation of appetite by marihuana is by no means invariable, occurring in only slightly more than half the subjects. Similar variations between individuals were observed in the case of responses to dextroamphetamine and alcohol. 6 references. (Author abstract modified)

070714 Blackwell, B.; Ayd, Frank J., Jr. University of Cincinnati, Cincinnati, Ohio Problems in the evaluation of a new antidepressant drug in prison volunteers. *Journal of Clinical Pharmacology and New Drugs*. 11(1):19-26, 1971.

Twenty three prison volunteers were experimental subjects in a double-blind comparison of imipramine, placebo, and a new antidepressant, dimethacrin. Conclusions about dimethacrin could be reached only after consideration of the problems in study design and data interpretation. These included the difficulty of matching unsuspected variables that can influence outcome or toxicity; problems posed by favorable treatment set; efforts of novel milieu on symptom reporting; cross-contamination of complaints due to proximity of drug treated and placebo treated patients. Dimethacrin had less anticholinergic activity than imipramine as judged by objective measures on salivation and pulse rate and by subjective complaints of dry mouth and constipation. On the basis of subjective reports, attendants' observations, and weight changes, dimethacrin appears to have fewer sedative and more stimulant actions than imipramine. 9 references. (Author abstract)

074835 Albert, J.-M.; Palaic, Dj.; Tetreault, L.; Panisset, J.-C.; Dhaiti, G.; Desaty, J. Institut de Recherches Psychiatriques de Joliette, Hopital Saint-Charles, Joliette, Quebec, Canada /Effects of thiothipropazine on the urinary excretion and concentration in the cerebrospinal fluid of 5-hydroxyindoleacetic acid in the chronic schizophrenic./ *Effets de la thiothipropazine sur l'excretion urinaire et la concentration dans le liquide cephalo-rachidien de l'acide 5-hydroxyindoleacetique chez le schizophrène chronique. Laval Medical (Quebec).* 42(2):167-171, 1971.

The effects of thiothipropazine on the concentration of 5-hydroxyindoleacetic acid (5-HIAA) in urine and cerebrospinal fluid of 26 female chronic schizophrenic patients is studied and correlated with the schizophrenic symptomatology. After a 30 day medication depletion period, thiothipropazine was administered in crossed and progressive doses. Extrapyraximal symptoms were measured by the Bilan extrapyramidal (BEP) test and the schizophrenic symptomatology by the inpatient multidimensional psychiatric scale (IMPS). 5-HIAA was measured in urine and cerebrospinal fluid at the beginning and the end of the experiment. A statistically significant decrease in urinary concentration of 5-HIAA was demonstrated in the course of the experiment. A significant positive correlation between the intensity of schizophrenic symptoms and the urinary concentration of 5-HIAA was shown to exist. Patients presenting an elevated symptomatic classification

have higher urinary concentrations of 5-HIAA than have patients presenting a less intense symptomatology. No correlation was observed between the urinary concentration of 5-HIAA and the intensity of extrapyramidal symptoms. The concentration of 5-HIAA in the cerebrospinal fluid was negatively correlated with the concentration of 5-HIAA in the urine at the beginning of the experiment. This correlation could not be found again during the period of treatment with thiothipropazine. It appears that a modification of serotonin metabolism can occur during activation or reactivation phases of the schizophrenic process. Thus, determination of 5-HIAA concentration in urine and cerebrospinal fluid can serve as a biological measure complementary to the diagnostic measure. 12 references. (Author abstract modified)

075092 no author. author address not given *Peripheral neuropathy caused by Antabuse. World Medicine (London).* 6(10):35-36, 1971.

Considering the number of alcoholics who are treated with disulfiram (Antabuse) for their addiction, the incidence of peripheral neuritis arising from the treatment must be rare; but isolated reports of a mild peripheral neuritis have been made since 1947 when the drug was first introduced. At a recent meeting on neuromuscular pathology, such cases were described. Of the 7 patients with complications of Antabuse treatment, 6 had a peripheral neuropathy. Four occurred in a small epidemic between March and July 1969, and were much less severe than the other 2 cases, and it was possible to follow their recovery electrophysiologically as well as clinically at intervals of 6 to 12 weeks over 15 to 18 months.

077708 Fry, D. E.; Marks, Vincent. Epsom Hospital Laboratories, West Park Hospital, Epsom, Surrey Value of plasma-lithium monitoring. *Lancet (London).* No. 7705:886-888, 1971.

In a group of 100 patients on lithium therapy, 29 had a mean plasma level within the range 0.8 to 1.2 milliequivalents, 18 were almost certainly receiving insufficient lithium, and 10 had not taken any tablets for some period of their treatment. Eight seemingly healthy patients had toxic levels of lithium, 12.0 milliequivalents, per liter or more. If patients are to benefit from lithium, the plasma concentration must be kept at the optimum level. In preventing toxicity it is necessary to assess not only the clinical state of the patient

but the plasma lithium concentration as well. 9 references. (author abstract modified)

077904 Wesley-Hadzija, B. Faculty of Pharmacy, University of Science and Technology, Kumasi, Ghana A note on the influence of diet in West Africa on urinary pH and excretion of amphetamine in man. *Journal of Pharmacy and Pharmacology* (London). 23(5):366-368, 1971.

The urinary excretion of amphetamine was examined after the oral administration of plus-amphetamine sulphate to 2 groups of subjects whose urinary pH fluctuated about mean acidic or alkaline values due to their different diets. The group with a balanced protein diet giving acidic urine, excreted much more drug unchanged than the group with a low protein diet giving alkaline urine. A small increase in protein intake in the group with alkaline urine made their urine pH acidic in a few days and increased their excretion of amphetamine to the same level as the group with acid urine. 7 references. (author abstract)

077933 Elliott, H. W.; Nomof, N.; Navarro, G.; Ruellus, H. W.; Knowles, J. A.; Comer, W. H. Department of Medical Pharmacology and Therapeutics, University of California, Irvine, California Central nervous system and cardiovascular effects of lorazepam in man. *Clinical Pharmacology and Therapeutics*. 12(3):468-481, 1971.

A group of 15 healthy adult men was divided into 3 groups for a double-blind study of the sedative hypnotic activity of single oral doses of lorazepam, a new member of the benzodiazepine series. Premedication procedures included complete blood counts, liver function tests, urinalyses, electroencephalograms, electrocardiograms and observations of central nervous system activity, as well as response to CO<sub>2</sub>, cardiac output, and peripheral vascular resistance. Three subjects received 100mg of sodium pentobarbital, 4 subjects received 2.5mg, 4 subjects, 5.0mg and the remaining 4, 7.5mg of lorazepam. The same observations were repeated on all at intervals throughout the day of the test. There were no significant changes in laboratory findings or electrocardiograms and no severe impairment of respiratory and cardiovascular centers. The compound probably acts indirectly on vasomotor reflexes by way of the central nervous system. The serum concentrations of lorazepam reached a peak between 2 and 6 hours and then declined slowly. Clinical recovery occurred in 6 to 8 hours

in all but one subject, even though serum levels were appreciable at 24 hours. About two thirds of the doses were recovered in urine as glucuronide within 96 hours. 7 references. (author abstract)

079779 van der Velde, Christiaan D. Abraham Ribicoff Research Center, Norwich Hospital, Norwich, Connecticut 06360 Toxicity of lithium carbonate in elderly patients. *American Journal of Psychiatry*. 127(8):1075-1077, 1971.

The clinical courses are described of 3 geriatric patients who had acute toxic reactions to lithium carbonate. It is pointed out that the peculiar variations in serum lithium levels in 2 of these patients may have been early indications of their extreme sensitivity to lithium. 9 references. (Journal abstract modified)

082516 Shmavonian, B. M.; Miller, L. H.; Cohen, S. I. Eastern Penn. Psychiatric Institute, Henry Ave., Philadelphia, Penn. 19129 Differences among age and sex groups with respect to cardiovascular conditioning and reactivity. (Unpublished paper). Philadelphia, Temple University Medical School. 20 p.

Results are reported from a research study on differences among age and sex groups with respect to cardiovascular conditioning and reactivity. Four groups, young males, young females, aged males and aged females, were experimented upon in a discrimination conditioning paradigm, with a variety of autonomic and central measures. Cardiovascular responses, plethysmograph, and heart rate are reported. Some reference is also made to EEG findings, as well as to responses to a cognitive questionnaire and the relative ranking of the subjects. There were clearcut age and sex differences in cardiovascular reactivity and conditioning: the aged showed poor conditioning and the young showed better reactivity and conditioning, both in plethysmographic and heart rate response. Furthermore, the consistently high - low - voltage fast responses of the aged were related to these vascular responses, and the possible importance of the interaction via pressure sensitive reflexes are discussed. 110 references. (Author abstract modified)

082634 Boullin, David J.; Coleman, Mary; O'Brien, Robert A.; Rimland, Bernard. Laboratory of Preclinical Pharmacology, NIMH, St. Elizabeths Hospital, Washington, D. C. 20032 Laboratory predictions of infantile autism based on 5-hydroxytryp-

tamine efflux from blood platelets and their correlation with the Rimland E-2 score. *Journal of Autism and Childhood Schizophrenia*. 1(1):63-71, 1971.

Experiments were conducted to determine the possibility of predicting infantile autism on the basis of the 5-hydroxytryptamine (5-HT) efflux from blood platelets, and to determine the correlation of these predictions with the Rimland E-2 score for the children. Such abnormally high release of 14C-5-HT from 5-HT loaded blood platelets was previously reported for children diagnosed as autistic by the E-2 score. The platelets of 10 psychotic children (including a number of subjects diagnosed as autistic by the E-2 score) were examined without knowledge of the diagnosis, in order to determine whether the biochemical results correlated with the E-2 score. On the basis of experimental data it was possible to predict that 6 children were autistic and 4 were nonautistic psychotics. According to the E-2 score, 7 children were autistic and 3 nonautistic psychotics. It is concluded that there is a correlation between a diagnosis of infantile autism by the E-2 score and enhanced release of radioactive 5-HT loaded blood platelets in vitro. 18 references. (Author abstract modified)

082750 O'Malley, Kevin. Department of Pharmacology and Therapeutics, The University, Dundee, Scotland Safety of hypnotics. *British Medical Journal*. No. 5751:729, 1971.

In a letter to the editor, the author states that nitrazepam is preferable as a hypnotic compared to barbiturates because its abuse potential and dependence risk appear to be negligible. Preliminary findings on drug metabolizing capacity in subjects exposed to this hypnotic indicate that the drug did not alter the plasma antipyrine half-life or urinary 6-beta-hydroxycortisol level. Thus, in contrast with the barbiturates, which are potent liver enzyme inducers in man, nitrazepam does not affect drug metabolizing capacity in man. 1 reference.

082826 Montagu, J. D. Department of Pharmacology, University College London, London WC1E6BT, England Effects of quinalbarbitone (secobarbital) and nitrazepam on the EEG in man: quantitative investigations. *European Journal of Pharmacology (Amsterdam)*. 14(3):238-249, 1971.

The EEG in the eyes closed and eyes open conditions was quantified by frequency analysis. Measurements were made in 6 subjects before

and at 6 intervals after placebo and 2 doses of secobarbital (50 and 100 mg) on different occasions. Another 6 subjects were tested similarly with placebo and nitrazepam (3.75 and 7.5mg). Subjective effects were quantified by a self-rating battery. The large dose of each drug resulted in a significant subjective effect. Both doses of secobarbital resulted in a significant shift of alpha frequency at 40 min. The effects of nitrazepam were not significant. In the theta range secobarbital resulted in increased activity. Nitrazepam resulted in decreases which were significant in the eyes open state. In the alpha range secobarbital resulted in increased activity in the eyes open state; nitrazepam resulted in decreased activity. In each case an increase in dose resulted in an increased effect. Both drugs induced fast activity, which increased with the dose. In general the EEG effects were more prolonged than the subjective effects. 15 references. (author abstract)

082861 Norris, H. Department of Clinical Pharmacology, University College Hospital Medical School, 117 Gower Street, London, W.C.1, England The action of sedatives on brain stem oculomotor systems in man. *Neuropharmacology*. 10(2):181-191, 1971.

Nitrazepam (7.5mg and 10mg) was compared with sodium phenobarbitone (200mg orally) in man. Suppression of smooth tracking eye movement, subjective effects and performance on the digit - symbol substitution test were recorded. Nitrazepam (7.5mg) had significantly less oculomotor effect but significantly more subjective effects than phenobarbitone. This finding is related to the evidence that smooth tracking suppression arises from drug action on brain stem systems, and the evidence that benzodiazepines affect brain stem systems less than the limbic system. The nature of the muscular effects of the drugs is discussed. 34 references. (author abstract)

085487 Lomax, Peter. Department of Pharmacology, School of Medicine and the Brain Research Institute, University of California, Los Angeles, Calif. 90024 Acute tolerance to the hypothermic effect of marihuana in the rat. *Research Communications in Chemical Pathology and Pharmacology*. 2(2):159-166, 1971.

The hypothermic effect of marihuana extract distillate has been used to test the development of tolerance to the drug in the rat. Acute tolerance to a single dose was seen 24 hr after the initial trial.

This tolerance could be overcome by increasing the dose. Fifteen days after the first injection the tolerance had disappeared. When rats were injected daily for 6 days the sixth injection caused a consistent rise in body temperature rather than a fall. The possibility is discussed that marihuana may have a dual effect on the thermoregulatory mechanisms in the rat: hypothermia is the predominant response, to which tolerance develops, so unmasking the hyperthermic effect. 5 references. (Journal abstract)

**085727** Merritt, James H.; Medina, Miguel A. School of Aerospace Medicine, Brooks AFB, Texas Effects of monoamine oxidase inhibitors and reserpine on brain amines in altitude-exposed rats. Springfield, Va., NTIS, AD-720808, 1971. 11 p. PC:\$3.00 MF:\$95.

Groups of rats were injected with either pargyline, Parnate, Catron, or reserpine (75 mg./kg., 5 mg./kg., 5 mg./kg., and 5 mg./kg. respectively) and taken to a simulated altitude of 18,500 ft. The expected rise in the brain monoamine (norepinephrine and serotonin) levels after administration of monoamine oxidase inhibitors and the decrease of norepinephrine by reserpine were attenuated by altitude exposure. In another experiment 100% oxygen was substituted for ambient air. In this case, the attenuation of monoamine elevations by the inhibitors was reversed. However, the added oxygen did not reverse the attenuation of the norepinephrine decrease by reserpine. (Journal abstract - GRA)

**085951** Wyatt, Richard J. Division of Special Mental Health Research, NIMH, St. Elizabeths Hospital, Washington, D. C. The serotonin-catecholamine - dream bicycle: a clinical study (Unpublished paper). Bethesda, Maryland, NIMH, 1971. 37 p.

Drugs were used to explore the relationship of the brain's serotonergic and adrenergic systems to human sleep. The subjects' sleep was monitored daily using standardized electroencephalographic techniques. Parachlorophenylalanine (PCPA), which decreases brain serotonin, decreased rapid eye movement (REM) sleep without affecting nonrapid eye movement (NREM) sleep. 5-HTP, the precursor of serotonin, reversed the PCPA effect and elevated REM sleep in normals. PCPA appears to produce its sleep effect by releasing phasic events, normally occurring during REM into the rest of sleep. The twice removed precursor

of serotonin, tryptophan, had a marked soporific effect in patients with insomnia and increased slow wave sleep in normals. Tryptophan also decreased REM sleep in normals. The observation that tryptophan produced the opposite effect on sleep from that of 5-HTP suggested that tryptophan induced sleep was not caused by serotonin. Further evidence for this came from the finding that PCPA enhanced tryptophan's soporific effect. MAOIs were found to diminish or produce the absence of REM sleep. The finding that low dosages of MAOI's and AM-5-HTP increased REM sleep indicated that the REM ablation was not caused by a fall in serotonin metabolites. AMPT and AMPA, which decrease brain catecholamines, increased REM sleep while L-DOPA, a catecholamine precursor, decreased REM sleep. The combined finding that serotonin concentrations are directly correlated and that catecholamine concentrations are inversely correlated with REM sleep indicates that there is an interaction of the adrenergic system with the serotonergic system in man. These findings can be used to examine current biochemical theories of mental illness. 86 references. (Author abstract modified)

**085956** Ng, Lorenz K. Y.; Chase, Thomas N.; Kopin, Irwin J. DCBR, National Institute of Mental Health, Bethesda, Maryland 20014 L-dopa in parkinsonism: a possible mechanism of action (Unpublished paper). Bethesda, Maryland, NIMH, 1971.

An explanation of the therapeutic action of L-dopa in parkinsonian patients is suggested by recent studies which show that at high concentrations, L-dopa may be converted to dopamine within central noncatecholaminergic neurons. Studies using rat striatal slices, previously incubated with labeled monoamines, indicate that L-dopa causes the release of bound serotonin or dopamine. Liberation of these amines by L-dopa appears dependent on dopamine formation, since it is blocked by an inhibitor of dopa decarboxylase. When striatal slices are prepared from rats pretreated with 6-hydroxydopamine (which selectively destroys catecholamine-containing nerve terminals), less dopamine is taken up and less is released by L-dopa. The uptake and subsequent L-dopa induced release of serotonin however, is unaffected by this pretreatment suggesting that serotonin is released by dopamine formed by the decarboxylation of dopa in serotonergic neurons.

In striatal slices incubated with radioactively labeled precursors of dopamine, electrical stimulation results in release of the endogenously synthesized radioactive dopamine. Pretreatment with 6-droxydopamine markedly diminishes release of labeled dopamine formed from C(14)-tyrosine or from low concentrations of H(3)-dopa; labeled dopamine release from slices incubated with high concentrations of H(3)-dopa is not significantly altered. The foregoing observations suggest that at high concentrations, L-dopa may enter serotonergic or other noncatecholamine containing neurons, undergo decarboxylation to dopamine which can then be released possibly as a false neurotransmitter. This mechanism may contribute to the clinical effects of high doses of L-dopa in parkinsonian patients. (Author abstract modified)

086073 Klimo, Z.; Takac, M.; Kafka, J. Psychiatricka klinika Lekarskej fakulty UPJS, Kosice, Czechoslovakia /The effect of sympathetic beta-receptor blocking agents on the course of delirium tremens./ O ovplyvneni priebehu deliria tremens blokatormi beta receptorov sympatiku. *Ceskoslovenska Psychiatrie (Praha)*. 67(2):94-97, 1971.

A beta receptor blocking agent (Inderal) was, in addition to other drugs, administered to five patients suffering from delirium tremens. Good results were achieved in four patients. The drug contributed to an early normalization (after 4 days) of pulse and blood pressure and to sleep inducement. In all four cases the drug led to an improvement of cardiovascular processes. The number of patients treated was too small to arrive at a definite conclusion and, owing to the seriousness of the condition of the patients, the discontinuance of other drugs (to better identifying the specific effectiveness of Inderal) could not be considered. 12 references.

086077 Hynek, K.; Zvolsky, P.; Kubickova, Z. Psychiatricka klinika fakulty vseobecneho lekarstvi KU, Prague, Czechoslovakia /An attempt to correlate the effect of imipramine and of amitriptyline with some genetic characteristics./ Pokus o korelaciu ucinku imipraminu a amitriptylinu s nekterymi genetickymi znaky. *Ceskoslovenska Psychiatrie (Praha)*. 67(1):27-31, 1971.

Pharmacogenetics deals with different genetically conditioned reactions of organisms to drugs. The difference in reactivity is due to different en-

zymatic patterns of the organism. Positive and negative clinical effects of the therapy on 33 patients suffering from endogenous depression with imipramine and on 23 patients treated with amitriptyline were correlated with a series of genetic characteristics including the phenylthiourea test (taste), blood group and sex. Statistical analysis disclosed that neither of these genetic characteristics correlated significantly with either the positive or the negative effect of imipramine or of amitriptyline. 12 references.

086417 Litvak, Ronald; Kaelbling, Rudolf. Department of Psychiatry, Ohio State University College of Medicine, 410 West Tenth Avenue, Columbus, Ohio 43215 Agranulocytosis, leukopenia, and psychotropic drugs. *Archives of General Psychiatry*. 24(3):265-267, 1971.

The uncertainty about the clinical significance of leukopenia which is possibly induced by psychotropic drugs is discussed. The usefulness of a routine white blood cell count (WBC) in detecting a developing agranulocytosis is questionable. Routine WBCs may foster a false sense of security and lead a physician to discount other symptoms; on the other hand, not every WBC below 3,700/cu mm is cause for abandoning a helpful drug. We feel that the medical staff should be on the alert for evidence of infection in patients taking psychotropic drugs so that laboratory tests can be ordered if indicated by current symptoms or a history suggesting a high risk. 11 references. (Journal abstract modified)

086529 Todrick, A. Department of Clinical Research, Crichton Royal Hospital, Dumfries, Scotland /Plasma drug concentration and clinical effect./ No title. *Proceedings of the Royal Society of Medicine (London)*. 64(3):290, 1971.

The question of binding of various drugs to plasma proteins, thereby rendering them inactive is considered. This problem is important when considering the value of measuring plasma protein levels as an indicator of clinical drug effectiveness. The time delay in response to a stabilized chlorpromazine level is interpreted as being due to induction of hydroxylating enzyme and not to conversion of inactive precursors to active metabolites. It appears that time is not a factor in achieving a high brain level from a low free plasma concentration.

086531 Curry, Stephen H. Department of Pharmacology and Therapeutics, London Hospital Medical College, London Chlorpromazine: concentrations in plasma, excretion in urine and duration of effect. *Proceedings of the Royal Society of Medicine (London)*. 64(3):285-289, 1971.

The plasma levels, urinary excretion and relation between drug concentrations and effects of chlorpromazine were investigated in human subjects. In oral and intramuscular administration, the plasma concentration rose rapidly with a peak in 2 to 4 hours. The range of half-life decline was 2 to 31 hours after administration, although less than 6 hours in 80% of the patients. Since chlorpromazine undergoes extensive metabolism, the unchanged form is rarely present in urine or feces. The excretory data indicate that there is 100% absorption from the site of administration. The persistence of drug effects after withdrawal and while urinary metabolites were detectable could not be fully assessed. Chlorpromazine was found to increase total sleep after administration of 100mg at bedtime. 20 references.

086576 West, N.; Vogel, W. H.; Boehme, D. H.; Gold, S. Department of Pharmacology, Jefferson Medical College, Philadelphia, Pennsylvania 19107 Urinary excretion of chlorpromazine and chlorpromazine sulfoxide in four patients on different days. *Journal of Pharmaceutical Sciences*. 60(6):953-954, 1971.

In a letter to the editor, the author reports on a study of the partial excretion pattern of chlorpromazine and chlorpromazine sulfoxide after administration of 200mg of the drug to 4 patients with schizophrenic reactions for 6 to 8 days. Two patients remained rather consistent, while the other 2 showed relatively large daily fluctuations in chlorpromazine and chlorpromazine sulfoxide excretion during this period. The results indicate the need for more long-term studies on drug metabolism and excretion in individual patients. 4 references.

086596 Welbel, Leszek; Zalewski, Kazimierz. Instytut Psychoneurologiczny, ul. Partyzantow 2/4, Pruszkow /ECG picture in the course of treatment of schizophrenia with phenothiazine derivatives./ Obraz EKG w przebiegu leczenia schizofrenii pochodnymi fenotiazyny. *Psychiatria Polska (Gdansk)*. 5(1):49-54, 1971.

Forty schizophrenic patients had ECGs made 5 times during treatment with phenothiazine deriva-

tives. The patients' ages ranged from 20 to 40 years old. Changes were recorded during treatment only in the repolarization phase. They were most marked in patients receiving thioridazine, less marked in those receiving chlorpromazine, perazine or chlorimpiphenine. The changes became more intense along with increases of the doses of the drugs, and decreased at the end of the therapy when the doses were reduced. The control group showed no changes in the ECG curve. The presumable causes of the observed phenomenon are discussed. 8 references.

086699 Bregman, Allyn A. Department of Biology, State University College, New Paltz, New York 12561 Cytogenetic effects of ethanol in human leukocyte cultures. *EMS Newsletter*. No. 4:35-36, March 1971.

Cytogenetic effects of ethanol are demonstrated on human leukocyte cultures. Whole human blood was cultured for 72 hr by a standard-microtechnique. The leukocytes were exposed to either of 2 ethanol concentrations (0.3% or 1.2%) for the last 4 or 48 hr before harvest. After exposure to 1.2% ethanol for 4 or 48 hr there was a significant increase in the frequency of chromosome breaks, and after the 48 hr exposure, a significant increase in the frequency of gaps, as well. The lower concentration caused no significant chromosomal changes. 5 references.

087000 Gelsler, A.; Schou, M; Thomsen, K. The Psychopharmacology Research Unit, Aarhus University Psychiatric Institute, 8240 Risskov, Denmark Renal lithium elimination in manic-depressive patients -- Initial excretion and clearance. *Pharmakopsychiatrie Neuro-Psychopharmakologie (Stuttgart)*. 4(3):149-154, 1971.

The fraction of a single lithium dose which was excreted in the urine within 11 and within 18 hours after the intake was determined; manic patients did not excrete less lithium than did depressed patients after recovery from mania or depression. The lithium clearance was positively correlated to the creatinine clearance and the sodium excretion but not to the urine flow. The manic patients had slightly higher mean lithium and creatinine clearances than the non-manic patients, but this could be accounted for by a larger mean body surface and a lower mean age. 8 references. (author abstract)

087001 Saletu, B.; Saletu, M.; Itil, T. M.; Hsu, W. Missouri Institute of Psychiatry, 5400 Arsenal Street, St. Louis, Missouri 63139 Changes in somatosensory evoked potentials during fluphenazine treatment. *Pharmakopsychiatrie Neuro-Psychopharmakologie (Stuttgart)* 4(3):158-168, 1971.

The effect of fluphenazine hydrochloride, a phenothiazine derivative, on the somatosensory evoked potential (SEP) and symptomatology of 15 chronic schizophrenic patients was studied. A slight increase in the latency and a marked decrease in the amplitude, predominantly in the later responses, were observed. The maximum drug effect generally took place in the 12th week of fluphenazine administration. After discontinuation of the drug, a latency decrease and an amplitude increase in some peaks to values higher than the baseline indicated a rebound phenomenon. The EP findings were reflected in the EEG analog power spectrum and digital computer period analysis results. The increase in theta and alpha activity, as well as the decrease in fast activity, which reached a level of statistical significance in the 12th week of drug treatment, can be related to a latency increase in the SEP. In the post-treatment placebo period slow waves decreased while fast increased. The overall symptomatology of the total patient population improved slightly. Patients who showed marked improvement in psychopathology, also exhibited marked changes in their SEP, particularly in amplitude measurements; while psychopathologically resistant schizophrenics revealed minor changes in their SEP. It was concluded that the SEP could be an objective and quantitatively valuable informant concerning the influence of psychotropic drugs on the central nervous system. 30 references. (author abstract)

087003 Koch, E. Psychiatric Research Institute, Biochemical Division, Prague/CSSR Double-blind study on the correlations of urinary elimination of catecholamines and their metabolites (supposed to come through adrenochrome, noradrenochrome and dopachrome) with clinical state of 50 patients under different psychopharmacologic drug. *Pharmakopsychiatrie Neuro-Psychopharmakologie (Stuttgart)* 4(3):123-136, 1971.

The urinary catecholamines adrenaline, noradrenaline, dopa and dopamine, and their oxidoreduction products, supposed to be hallucinogenic and to come from in vivo metabolism, were measured in urinary extracts over alumina

by ultraviolet (U.V.) spectrophotometry and by the v. Euler-Orwen-Floding method in different psychiatric patients. Several biochemical indices were established, of which the trend was correlated with the trend of Psychopharmacological Rating Scales items, (hallucinations, delusions, anxiety, criticism) and Golobal Score in 35 patients with and without therapy, of which 27 were paranoid schizophrenics, 4 endogenous depressions and 4 mixed psychoses. High correlations were found in 25 cases, low or negative correlations in 11 cases. The effect of trifluoperazine, clopenthixol, carphenazine, propericiazine, diazepam, dibenzepin, amitriptyline, nortriptyline and nortiadene was followed in the absolute density of absorption spectra (ADI) and glial fluorescence index (GFI) with respect to the changes in eliminated urinary oxidoreduction products of adrenaline, noradrenaline, dopa and dopamine. Great variations in ADI, and to a lesser extent in GFI, values were observed in single days as well as during the whole period of therapy, testifying to important variations of availability and elimination of the catecholamines and their oxidoreduction products. These findings were discussed on the basis of possible interaction between psychotropic drugs considered as hydrogen bonding agents, oxidoreduction products of catecholamines, and oxidizing enzymes. 49 references. (author abstract modified)

087031 Kelly, John T.; Abuzzahab, F. S., Sr. Department of Psychiatry, University of Minnesota The antiparkinson properties of amantadine in drug-induced parkinsonism. *Journal of Clinical Pharmacology and New Drugs* 11(3):211-214, 1971.

In an open study, 10 acutely psychotic patients exhibiting typical extrapyramidal symptoms while being treated with neuroleptic drugs were given amantadine hydrochloride daily for 7 days in doses of 100 to 200mg/day in an effort to control their symptoms. Nine of 10 patients showed moderate to marked improvement of their symptoms. Akathisia and dystonia responded most effectively to the treatment. No side-effects were noted during the 7 days of treatment, and no adverse effect upon mental status was observed. The absence of anticholinergic side reactions during this study suggests that amantadine HCl should be more fully investigated as a new class of drug effective for treatment of drug induced Parkinson syndromes. 7 references. (author abstract modified)

087032 Mendoza, L. C.; Hellberg, K.; Rickart, A.; Tillich, G.; Bing, R. J. Huntington Memorial Hospital, Pasadena, California The effect of intravenous ethyl alcohol on the coronary circulation and myocardial contractility of the human and canine heart. *Journal of Clinical Pharmacology and New Drugs*. 11(3):165-176, 1971.

The effects of intravenously administered ethyl alcohol on coronary blood flow, contractility, and hemodynamics were investigated in patients and in anesthetized dogs. In man, alcohol blood levels, ranging from 23 to 65mg/100cc of blood, resulted in an increase in effective coronary blood flow; this was however not significant. In the dog, an average increase in alcohol blood level of 67mg/100cc blood had no significant effect on effective coronary blood flow. However, when the mean blood alcohol level reached 190mg/100cc of blood a significant increase in effective coronary blood flow and cardiac output were detected. At mean blood level of 195mg/100cc blood there was a marked diminution in the velocity of left ventricular contraction. The reasons for the diminution in myocardial contractility are discussed. 40 references. (author abstract)

087364 Curry, S. H.; Lader, M. H.; Mould, G. P.; Sakalis, G. Department of Pharmacology and Therapeutics, London Hospital Medical College, Turner Street, London E1, England Pharmacology of chlorpromazine: clinical studies. *British Journal of Pharmacology (London)*. 41(2):431, 1971.

An intensive study of variations in concentrations and in effects of chlorpromazine, administered to patients over a 6 week period, is reported. After an initial dose of 100mg i.m. they receive 100mg of the drug by mouth every 8 hr. Chlorpromazine concentrations in the blood rise markedly following each dose, to fall again within 4 hr. A great variability in concentrations is also found between patients. Concentrations rise to the highest maxima in the first 7 to 14 days of treatment. Changes in only some of the physiological measures (blood pressure, pulse, pupil size, sweat gland activity, and EEG) followed drug concentrations. Tolerance is evident with some of the others. Extrapyramidal effects such as micrographia sometimes become evident after about 15 days. Clinical effects tend to be steadily more noticeable although the rate of improvement may lessen after 3 weeks. 3 references.

088231 Muller-Wieland, K.; Ossenberg, F. W. I. Medizinische Universitätsklinik, Martinstrasse 52,

D-2 Hamburg 20, Germany Medical management and treatment of duodenal ulcer. In: *Weiner, H., Advances in psychosomatic medicine: duodenal ulcer*. Basel, S. Karger, 1971. 200 p. (p. 152-168). Vol. 6.

The main principle to be followed in the treatment of peptic duodenal ulcer is the suppression of the increased secretory activity of the parietal cells. Diminution of the parietal cell activity and of gastric acidity is the objective of diet therapy, administration of antacids, anticholinergic agents, and antagastin and gastrin antibodies. Diminution of the parietal cell mass is the objective of irradiation therapy and gastric freezing. Diminution of pepsin activity is attempted by therapeutic means, and preventive therapy includes avoidance of gastric stimulants and ulcerogenic drugs. It is suggested that resistance to peptic influences may be accomplished by rest, coating the mucosa and alkalinizing by secretin, administration of licorice, mucin, or estrogen. The difficulty in evaluation of therapy in a disease characterized by unpredictable remissions and recurrences is noted. It is concluded that there are still reasons to believe that the natural history of the disease, rather than the long-term medical treatment, is responsible for the clinical course; and that peptic ulcer remains an enigmatic disorder, but not an incurable one. 58 references. (Author abstract modified)

088400 Martin, William R.; Jasinski, D. R.; Mansky, P. A. Addiction Research Center, National Institute of Mental Health, Lexington, Kentucky Characterization of the blocking effects of EN-1639A (N-cyclopropylmethyl-7,8-dihydro-14-hydroxynormorphinone HCl) (Unpublished paper). Lexington, Kentucky, NIMH, 1971. 10 p.

A study of the long-term antagonistic effect of N-cyclopropylmethyl-7, 8-dihydro-14-hydroxynormorphinone HC (EN-1639A) is presented. It would appear that EN-1639A is twice as potent as naloxone and cyclazocine as an antagonist. Its duration of action is longer than that of naloxone, but shorter than that of cyclazocine. It probably has agonistic activity of the nalorphine type, namely, it elevates blood pressure, constricts pupils and produces racing thoughts and irritability, as well as other psychotomimetic effects; however, in this regard its activity is much less than that of cyclazocine. The efficacy of EN-1639A by the oral route is considerably greater than that of naloxone but less than that of cyclazocine. To

produce a degree of antagonism that would be equivalent to that of 4 to 8 mg of cyclazocine daily, a daily dose of 50 to 100 mg of EN-1639A will probably have to be administered. The feasibility of administering this dose will have to be investigated; because of the great potency of EN-1639A, it is entirely conceivable that this agent could be administered in a depot which could provide blockade for a week or more. 7 references. (Author abstract modified)

**088510** Burnett, G. B.; Reading, H. W. Department of Psychiatry, University of Edinburgh, Royal Edinburgh Hospital, Morningside Park, Edinburgh 10, Scotland The pharmacology of disulfiram in the treatment of alcoholism. *British Journal of Addiction (London)*. 65(4):281-288, 1971.

The effects of Disulfiram ('Antabuse') 0.5g daily maintenance dosage in abstinent alcoholics on serum-SH (thiol) values have been investigated in clinic patients over a period of 30 to 37 days. In comparison, serum-SH values of nonalcoholic patients under treatment for psychoneurotic illnesses were determined over a similar period. In addition, assay of serum-SH levels in clinic abstinent alcoholics not receiving disulfiram were also determined. The results indicate that: the serum-SH values of some alcoholic patients are of a low order and that extensive protein denaturation may occur in such patients; during in-patient care when the patients are abstinent, serum-SH levels return to normal and the protein denaturation appears to improve; and administration of disulfiram to abstinent alcoholics appears to reverse these improvements in serum protein status, with definite indications of denaturation. The significance of these findings is discussed, especially the evidence that disulfiram tends to exacerbate the already marked effect of chronic alcohol toxicity in the liver. 14 references. (author abstract)

**088540** Pilkonen, Olavi; Vorne, Martti; Jouppila, Pentti; Karki, Nillo T. Department of Pharmacology, University of Oulu, Finland Metabolism of chlorpromazine and p-nitrobenzoic acid in the liver, intestine and kidney of the human foetus. *Acta Pharmacologica et Toxicologica (Kopenhagen)*. 29(2-3):284-294, 1971.

The ability of the liver, intestine and kidney to metabolize chlorpromazine (CPR) and p-nitrobenzoic acid (NBA) was studied in the human fetus. Low levels of CPR metabolizing ac-

tivity were present in all the tissues studied, but only the liver and intestine were capable of metabolizing NBA. We were not able to detect any cytochrome P-450 in the liver microsomal fraction. The enzymes metabolizing CPR and NBA are located in the liver microsomes, they require NADP and the 100,000 times g supernatant fraction or NADPH<sub>2</sub> for full activity, are inhibited by carbon monoxide, and have Michaelis constants of the same order of magnitude as found in the enzymes from experimental animals. The above mentioned characteristics of the fetal enzymes strongly suggest that they belong to the same class of NADPH<sub>2</sub> dependent mixed function oxidases which are detected in the livers of adult humans and animals and which are thought to be responsible for the greater part of oxidative and reductive drug metabolism. 28 references. (author abstract)

**088725** Burrow, G. N.; Burke, W. R.; Himmelhoch, J. M.; Spencer, R. P.; Hershman, J. M. Department of Internal Medicine, Yale University School of Medicine, New Haven, Connecticut 06510 Effect of lithium on thyroid function. *Journal of Clinical Endocrinology and Metabolism*. 32(5):647-652, 1971.

Thyroid function was evaluated before and during lithium carbonate therapy in 13 patients, 12 with mood disorders and 1 with a seizure disorder. One patient developed a goiter which subsided with desiccated thyroid; another patient, already on lithium, had a goiter which markedly decreased in size when the drug was discontinued. The administration of lithium to 2 thyrotoxic patients resulted in an acute inhibition of the discharge rate of <sup>131</sup>I from the thyroid gland. The short-term administration of lithium to rats whose thyroid glands were subsequently labeled with <sup>131</sup>I resulted in a decrease in the percent distribution of radioactive thyroxine by chromatography in lithium treated as compared to control animals. Lithium had no effect on the <sup>131</sup>I thyroid/serum ratio or iodotyrosine formation. The lithium concentration in pooled rat thyroid glands was 10.1mEq/kg compared to a mean serum level of 1.9mEq/l. Despite certain inhibitory effects of lithium, the basic mechanism for the goitrogenic effect of this cation is still unclear. 12 references. (author abstract modified)

**088729** Brackenridge, C. J.; Jones, Ivor H. Department of Psychiatry, University of Melbourne,

Royal Melbourne Hospital, Victoria, Australia  
Relation of hypermagnesaemia to activity and neuroleptic drug therapy in schizophrenic states. *Journal of Neurology, Neurosurgery and Psychiatry (London)*. 34(2):195-199, 1971.

In a study designed to explain conflicting reports of hypermagnesemia in schizophrenia, significantly higher concentrations of plasma magnesium were found in phenothiazine treated schizophrenic women than in normal women of the same age. This did not apply to men. Magnesium levels were inversely related to motor activity in untreated chronic schizophrenic men in hospital as well as in patients of both sexes receiving butyrophenone or phenothiazine derivatives. The magnesium concentration fell significantly when institutionalized schizophrenic and nonschizophrenic men were placed on neuroleptic medication. It is concluded that age, sex, pharmacotherapy, and level of activity all influence the metabolism of magnesium in schizophrenic subjects. 23 references. (author abstract)

089191 Rubin, Emanuel; Lieber, Charles S.  
Mount Sinai School of Medicine, City University of New York, New York 10029 Alcoholism, alcohol, and drugs. *Science*. 172(3988):1097-1102, 1971.

The influence of acute and chronic ethanol ingestion on the response to drugs was studied relative to an interaction of ethanol and hepatic microsomes. Phenobarbital was compared biochemically by in vitro testing and by the response of rats and humans to controlled ethanol administration. Administration of ethanol for 9 to 16 days to alcoholics and to nonalcoholic volunteers as isocaloric replacement for dietary carbohydrate in an otherwise nutritionally adequate diet disclosed, in pre-ethanol and post-ethanol liver biopsy specimens, an hypertrophy of the smooth endoplasmic reticulum in all cases. Examination of induction of drug metabolizing enzymes in rats showed that ethanol markedly increased the activity of pentobarbital hydroxylase. The accentuated tolerance of alcoholics, when sober, to barbiturates may be explained on this basis. Liver biopsies, after 12 days' ethanol administration in 3 healthy human subjects, showed similar changes. Ethanol feeding to rats and humans led to a 2 fold increase in the rate of metabolism of meprobamate and of phenobarbital. Ethanol inhibits microsomal drug metabolizing enzymes given together with drugs. 41 references.

089200 Fischbach, R. Landes-Nervenklinik Salzburg, 79 Ignaz Harrer Strasse, A-5020 Salzburg, Austria /Changes in calcium and magnesium metabolism in depressions and delirium tremens./ *Veränderungen des Kalzium- und Magnesiumstoffwechsels bei Depressionen und Delirium tremens. Wiener Medizinische Wochenschrift (Wien)*. 121(15):292-294, 1971.

Calcium metabolism was followed in 27 depressed patients under treatment with imipramine, desipramine, chlorimipramine, levomepromazine and amitriptyline. On the basis of changes in the clinical picture of depression it was possible to obtain a group of 11 patients with endogenous depression who responded well to antidepressive therapy. All of these patients revealed a decrease in urinary 24 hour calcium, whereas the patients who responded only slightly or not at all to the same therapy, and who suffered predominantly from reactive and neurotic depressions, with some cases of therapy refractive endogenous depressions and submanic states, revealed no change in the calcium elimination, with increased urinary calcium in the manic and submanic patients. Magnesium metabolism was determined in a group of chronic alcoholics who had been treated for delirium tremens and some patients with depression. In the latter, a tendency toward hypomagnesemia was seen, with a rise in magnesium as the depression was lifted. In the alcoholics, the magnesium values were in the lower range of normal, and the potassium was decreased. 11 references.

089325 Glegg, Andria M.; Turner, P. Clinical Pharmacology Division, Medical Professorial Unit, St. Bartholomew's Hospital, London, E.C. 1, England Pharmacological studies of fluphenazine and nortriptyline in combination in man. *Journal of Pharmacy and Pharmacology (London)*. 23(2):133-134, 1971.

Combinations of fluphenazine and nortriptyline were tested for their effects on central nervous function after single and multidose administration and compared with diazepam. The testing was done in 8 healthy volunteers in doses of 0.5mg fluphenazine plus 10mg nortriptyline, and with 20mg nortriptyline respectively, 3 times daily for 4 days; and diazepam 2mg, 3 times daily for 4 days. Matching placebo capsules were given in the same dosage; the subjects received all treatments with 10 days elapsing between treatments. Both treatments containing the anticholinergic com-

pound (nortriptyline) produced a reduction in salivary volume; none of the treatments showed evidence of central action. The critical flicker frequency is a particularly sensitive test of central function, but was negative in this testing.

089866 Schou, Mogens. Psychopharmacology Research Unit, Aarhus University Psychiatric Institute, Risskov, Denmark Lithium In: *Lajtha, A., Handbook of Neurochemistry*. New York, Plenum Publishing, 1971. Vol. 6. (p. 387-393).

Lithium is reviewed and discussed in relation to its role as a psychotherapeutic agent. The literature is reviewed from the viewpoints: therapeutic and prophylactic properties of lithium in affective disorders; distribution in the organism; and effects of the element on monoamines, on electrolytes, on intermediary metabolism, and on nervous transmission. Animal studies, including biochemical studies of brain and nerve tissue, and clinical findings are covered in the review. It is concluded that lithium may possibly counteract pathological mood swings by exerting a stabilizing action on cerebral functions that are critically dependent on particular protein-electrolyte-water patterns. 43 references.

092101 Jasinski, Donald R.; Haertzen, Charles A.; Isbell, Harris. National Institute of Mental Health Addiction Research Center, Lexington, Kentucky Review of the effects in man of marijuana and tetrahydrocannabinols on subjective state and physiologic functioning (Unpublished paper). Lexington, Kentucky, NIMH, 1971. 17 p.

The effects in man of marijuana and tetrahydrocannabinols (THCs) on the subjective state and physiologic functioning are reviewed. A principal focus of the review is on the subjective states induced by the cannabinoids as they relate to the abuse potential of cannabis and THCs. Two homologues derived from synthetic THC are active in man. These are the n-hexyl derivative or pyrahexyl, and the dimethylheptyl derivative (DMHP). Their potency has been tested in both man and animals. While pyrahexyl was similar to but stronger than marijuana, subjects preferred smoking marijuana cigarettes. Pyrahexyl and DMHP have been used to develop scales measuring the subjective effects of cannabislike compounds on a basic instrument, the Addiction Research Center inventory (ARCI). Studies with this instrument are reviewed. The physiologic and subjective effects of a number of material isolated

from cannabis or prepared synthetically have been studied. Of prime interest in the studies was the demonstration that 1-delta 9-tetrahydrocannabinol (delta 9-THC) was capable of producing marijuanalike activity in man. It was concluded from a series of studies that delta 9-THC was a psychotomimetic drug capable of producing a subjective state similar to those produced by lysergic acid diethylamide (LSD) type hallucinogens in that the predominant effects were in thought, perception and mood, with minimal intellectual impairment. Dose dependency and effect of method of administration of delta 9-THC have been studied. The abuse of potential of delta 9-THC, pyrahexyl and DMP is discussed. 15 references.

092324 Kochova, Ema. Psychiatric Research Institute, Prague 8-Bohnice, Czechoslovakia Biochemical laboratory of catecholamines. In: *Psychiatric Research Institute: Annual Report, 1968-1970*. Prague, Psychiatric Research Institute, 1971. 115 p. (p. 87-88).

The activities of the biochemical laboratory of catecholamines for the period 1968 to 1970 are reported in the annual report of the Psychiatric Research Institute. Clinical studies of patients under various psychopharmacological treatment, in which the effect of the drugs on biochemical indices is investigated, are reported. The 35 patients included 27 cases of paranoid schizophrenia, 4 cases of endogenous depression, and 4 patients with mixed psychoses. Urinary excretion of catecholamines and their metabolites, as measured by absorption and fluorescent spectrophotometry, were correlated with psychopharmacological rating scales. The findings are discussed in relation to biochemical mechanisms, actions of the psychotropic drugs, and possible interaction between the drugs.

092894 Lemberger, Louis; Axelrod, Julius; Kopin, Irwin J. Laboratory of Clinical Science, National Institute of Mental Health, Bethesda, Maryland 20014 Metabolism and disposition of tetrahydrocannabinols in naive subjects and marijuana users (Unpublished paper). Bethesda, Maryland, NIMH, 1971. 15 p.

The increasingly widespread use of marijuana as a euphoriant in the past decade and the possibility that delta-9-tetrahydrocannabinol (delta-9-THC) or a structurally related analogue might be a therapeutically useful agent make it of special

importance to study the disposition and metabolism of delta-9-THC in man. Four naive Ss and 5 chronic users of marihuana (the latter group professing to have smoked marihuana daily for a minimum of 1 year immediately prior to the investigation) received 0.5mg of C14-delta-9-THC by intravenous injection. It was found that plasma levels of C14-delta-9-THC decline rapidly in all Ss during the first few hours, then followed a slower course of disappearance in both the nonusers and the chronic users. However, the plasma half lives for C14-delta-9-THC, total radioactivity and ether extractable radioactivity (the 3 followed parallel patterns) were significantly shorter in chronic marihuana users than in nonmarihuana smokers. Delta-9-THC was found to be extensively metabolized in man; the resulting polar metabolites were excreted in the urine and feces. Metabolites of the compound were present in the plasma at all times examined. Comparative studies showed that the excreted metabolites of delta-9-THC were similar after oral and intravenous administration. The results are discussed in relation to the possibility that enzyme induction might be responsible for differences in metabolic rate, and to the means of determining marihuana users. Complete metabolism of delta-9-THC in man seems to rule out urine analysis as a test. 36 references.

092998 Welas, James L.; Chase, Thomas N. Neurology Unit, Laboratory of Clinical Science, National Institute of Mental Health, Bethesda, Maryland 20014 L-dopa in parkinsonism (Unpublished paper). Bethesda, Maryland, NIMH, 1971. 7 p.

The history of treatment of parkinsonism with L-dopa is reviewed beginning with discovery of the drug in the 1950's and study of the effects of L-dopa in animals and its relation to the metabolism and function of dopamine. The rationale for the therapeutic use of dopa in parkinsonian patients developed in the 1960's from observations on dopamine deficiency in these patients, and of the metabolism of dopa, its immediate precursor. Research into the poor results of early clinical trials with dopa showed the far greater effectiveness and lower toxicity of the L-isomer of racemic dopa. In biochemical and mechanism of action studies, the assumption that the effect of L-dopa in parkinsonism is related to the repletion of dopamine stores in the terminals of surviving striatonigral neurons was made, but later observations cast doubt on the validity of that hypothesis

and these observations are discussed. The wide variation in clinical response of parkinsonian patients to L-dopa, as well as in tolerance to the drug, is discussed. Although L-dopa is the best agent available for the relief of parkinsonian symptoms, the side effects of therapeutic dose levels of L-dopa make its use difficult in many patients. These side effects and the use of adjunct agents are reviewed briefly.

093081 Mendell, Jerry R.; Chase, Thomas N.; Engel, W. King. Laboratory of Clinical Science, National Institute of Mental Health, Bethesda, Maryland 20014 Amyotrophic lateral sclerosis: metabolism of central monoamines and treatment with L-dopa (Unpublished paper). Bethesda, Maryland, NIMH, 1971. 4 p.

The metabolism of central nervous system (CNS) monoamines in amyotrophic lateral sclerosis (ALS), and the effect of treatment of the condition with L-dihydroxyphenylalanine (L-dopa) are studied. Cerebrospinal fluid (CSF) levels of homovanillic acid (HVA) and of 5-hydroxyindoleacetic acid (5-HIAA), the principal catabolite of serotonin, were determined in 21 ALS patients and in 19 control Ss. There was no evident correlation between HVA levels in ALS patients and the severity or duration of the illness. No significant difference was found in mean 5-HIAA levels between patients and controls. In an attempt to further assess the central metabolism of dopamine in ALS, HVA accumulation in CSF was measured during the administration of probenecid. The finding of an apparent reduction in the probenecid induced accumulation of HVA in the CSF of ALS patients suggests that a defect in central dopamine turnover, rather than an abnormality in HVA transport from CSF is responsible for the observed reductions in steady state levels of this dopamine catabolite. The findings of this study raise questions about the specificity of reduced steady state concentrations and probenecid induced accumulations of HVA in the CSF of ALS patients as well as in patients with other CNS disorders not involving the extrapyramidal system. Further research is suggested.

093821 Viala, A.; Cano, J. P.; Dravet, C.; Tassinari, C. A.; Roger, J. Laboratoire de Toxicologie, 27 Bd Jean Moulin, Marseilles, France Blood levels of diazepam (Vallium) and N-desmethyl diazepam in the epileptic child. A preliminary report. *Psychiatria, Neurologia, Neurochirurgia (Amsterdam)*. 74(2):153-158, 1971.

Correlations between blood levels and anticonvulsant effect of diazepam (Valium) and N-desmethyl-diazepam were investigated in children receiving antiepileptic therapy. The hemokinetics of intravenously injected diazepam in relation to EEG recording were used to obtain information concerning the blood level needed to maintain an adequate anticonvulsant effect. Blood level determination of diazepam and N-desmethyl-diazepam in the child who takes oral diazepam alone or in combination with other drugs indicated that diazepam metabolism is stimulated by phenobarbital and phenytoin; however, the possibility that diazepam accelerates its own metabolism must also be considered. 10 references.

094938 Jasinski, Donald R.; Martin, William R.; Mansky, Peter A. National Institute of Mental Health Addiction Research Center, Lexington, Kentucky Progress report on the assessment of the antagonists nalbuphine and GPA-2087 for abuse potential and studies of the effects of dextromethorphan in man (Unpublished paper). Lexington, Kentucky, NIMH, 1971. 21 p.

A progress report is made in the assessment of the antagonists nalbuphine and GPA-2087 (a levorotatory 6,7-benzomorphan analgesic) for abuse potential and on studies of the effects of dextromethorphan in man. Confirmation of the morphine like properties of GPA-2087 was attempted in studies to test the ability of the drug to substitute for morphine and suppress abstinence in subjects dependent on 60mg/day of morphine. It was concluded that GPA-2087 is a morphinelike agent in man whereas the drug has little or no morphine agonistic activity in the monkey. Nalbuphine (EN-2234A) was tested for pupillary constriction and subjective effects and it was concluded that the drug produces subjective effects which most closely resemble those of nalorphinelike compounds. Direct addiction studies with nalbuphine in 6 subjects have been completed and are reported. On the basis of the studies, nalbuphine cannot clearly be classified as a nalorphinelike or morphinelike agonist. Further studies indicated that nalbuphine resembles pentazocine because both are partial antagonists which have both nalorphine and morphine agonistic effects. The studies on dextromethorphan were designed to characterize the subjective and physiologic effects of single doses of the drug and their resemblance to those of morphine and/or nalorphine, and to determine if morphine type euphoria could be produce from

a single dose. The subjective response to dextromethorphan is clearly distinguished from that of morphine, but certain of the subjective changes resemble those produced by large doses of nalorphine. The physiological effects produced by dextromethorphan show both similarities and differences to the physiological effects of morphine and nalorphine. These effects are discussed as are the psychotomimetic effects and the elevation of blood pressure. 19 references.

095003 Martin, W. R.; Sloan, J. W.; Sapira, J. D.; Jasinski, D. R. National Institute of Mental Health, Addiction Research Center, U. S. Dept. H.E.W., Public Health Service, Lexington, Kentucky Physiologic, subjective and behavioral effects of amphetamine, methamphetamine, ephedrine, phenmetrazine, and methylphenidate in man. *Clinical Pharmacology and Therapeutics*. 12(2):245-258, 1971.

The physiologic, subjective and behavioral effects of 5 centrally acting sympathomimetic amines, d-amphetamine, d-methamphetamine, ephedrine, phenmetrazine, and methylphenidate, are studied in man. All of these agents increased blood pressure and respiratory rate, produced similar types of subjective changes, and increased the excretion of epinephrine. With regard to these parameters, there was a high concordance between estimates of their relative potencies. The concordance between the potency estimates for the different parameters suggests, but does not prove, that these 5 agents share a common mode of central action. Further, if the peripheral modes of action as elucidated by animal studies are true for man, this study suggests that it is unlikely that their central actions in man are a consequence of the release of norepinephrine in the brain. 25 references. (Author abstract modified)

095131 Hammer, O. Sanatorium der LVA Württemberg, Bad Nauheim, Germany /Medication treatment of vascular hypotonic condition pictures./ Zur medikamentösen Behandlung vaskularer hypotoner Zustandsbilder. *Medizinische Welt (Stuttgart)*. 22(2):63-64, 1971.

Within the framework of physical, balneological measures 226 patients with hypotonic conditions were treated with endogenous material p-hydroxyphenyl-athanolamin (Norphen). This preparation contains all the suitable pharmacodynamic properties for hypotonic patients. The results reveal the remarkable fact that among the Norphen medica-

tions there was no indication of a central agitated condition, blood sugar increase, or biochemically demonstrable metabolism change in the liver and kidneys. The conclusion to this experiment is the determination that patients with vascular hypotonic regulation disorders can receive effective, supportive physical balneological measures in accompaniment of a curative treatment through ingestion of the endogenous sympathicomimeticum Norphen, either perlingually or orally. 11 references.

**095943 Borge, George F.; Buchsbaum, Monte; Goodwin, Frederick; Murphy, Denais; Silverman, Julian.** Illinois State Psychiatric Institute, 1601 W. Taylor St., Chicago, Illinois 60612 Neurophysiological correlates of affective disorders. *Archives of General Psychiatry*. 24(6):501-504, 1971.

A group of manic-depressive and depressed patients and a group of normal volunteers were tested on 2 measures of stimulus intensity control to measure the effects of lithium carbonate administration. On baseline testing, both the perceptual judgment and EEG average evoked response measures of stimulus intensity control differentiated between manic-depressive and depressed patients. Lithium carbonate administration was associated with a decrease in average evoked response augmentation in both patient groups. Stimulus intensity control may provide a bridging concept between conventional psychiatric categories and underlying neurophysiological processes. 19 references. (journal abstract modified)

**096332 McGeer, Patrick L. Kinsmen Laboratory of Neurological Research, University of British Columbia, Vancouver 8, British Columbia, Canada** The chemistry of mind. *American Scientist*. 59(2):221-229, 1971.

The human brain and its functions are described under topics that include neurochemical and neuroanatomical investigations, clinical investigations, neurophysiological investigations, and neuropharmacological investigations. Amine pathways (dopaminergic, noradrenergic, and serotonergic) are presented tabularly, as also are the relations of psychoactive drugs to amine synaptic activity. In the latter table, drugs are categorized as to whether they enhance or impair amine synaptic activity. 42 references.

**096452 Ogata, Motol; Mendelson, Jack H.; Mello, Nancy K.; Majchrowicz, Edward.** National Center for Prevention and Control of Alcoholism, National Institute of Mental Health, Chevy Chase, Maryland Adrenal function and alcoholism: II. catecholamines. *Psychosomatic Medicine*. 33(2):159-180, 1971.

A further investigation of adrenal function and alcoholism is made in a study designed to assess the urinary excretion of catecholamines and their metabolites in healthy alcoholic Ss prior to and during chronic ethanol ingestion, and after alcohol withdrawal. A dose response relationship was found between magnitude of blood alcohol levels and increased excretion of epinephrine, metanephrine, norepinephrine and noremethanephrine. Maximal excretion of epinephrine occurred when Ss developed withdrawal signs and symptoms after they had stopped drinking. A significant decrease in excretion of 3-methoxy-4-hydroxymandelic acid and a concomitant increase in methoxyhydroxyphenylglycol excretion occurred when Ss were drinking. These data indicate that chronic ethanol ingestion is associated with both stimulation of adrenergic activity and alteration in pathways of catecholamine catabolism. 48 references. (Author abstract modified)

**096471 Van Woert, Melvin H.; Mueller, Peter S.** Departments of Internal Medicine, Pharmacology, and Dentistry, Yale University School of Medicine, New Haven, Connecticut Glucose, insulin, and free fatty acid metabolism in Parkinson's disease treated with levodopa. *Clinical Pharmacology and Therapeutics*. 12(2):360-367, 1971.

Metabolism of carbohydrate and insulin was evaluated in 24 patients with Parkinson's disease before and during L-dihydroxyphenylalanine (levodopa) therapy. In the untreated state these patients had low rates of glucose utilization (k) and impaired release of insulin during an intravenous glucose tolerance test. These abnormalities could not be related to age, diet, or degree of neurological disability. In addition these untreated patients had high fasting serum glucose and free fatty acid (FFA), normal human growth hormone, and low fasting serum insulin levels. It is proposed that the primary abnormality in carbohydrate - insulin metabolism observed in these parkinsonian patients is a deficit in pancreatic insulin release. Levodopa treatment did not alter the low-k and impaired insulin release. A trend

toward more normal fasting serum levels of glucose, insulin, and FFA during levodopa therapy was suggested. 39 references. (Author abstract)

097447 Narasimhachari, N.; Heller, B.; Spalde, Joanne; Haskovec, L.; Fujimori, M.; Tabushi, K.; Himwich, H. E. Thudichum Psychiatric Research Laboratory, Galesburg State Research Hospital, Galesburg, Illinois Urinary studies of schizophrenics and controls. *Biological Psychiatry*. 3(1):9-20, 1971.

Studies of schizophrenic and normal subjects are made to determine if administration of tranlycypromine (Parnate) alone or together with cysteine would reveal behavioral disturbances and whether the same 3 urinary substances excreted by subjects in earlier experiments would be observed. Six normal controls and 2 schizophrenic patients were each given tranlycypromine 10mg t.i.d. and cysteine in increasing doses from 5 to 20g/day. The research design included a control period, followed by another period in which the subjects received tranlycypromine alone; a third, in which cysteine was added to tranlycypromine; and finally, a fourth period of afterloading. Clinical evaluations were made using the Rockland and Pollin and ad hoc scales. In addition to thin layer and gas liquid chromatographic studies of N-dimethyltryptamines, urinary tryptamine, 3-indoleacetic acid and creatinine were determined. During the combined treatment of cysteine and tranlycypromine, the schizophrenic symptoms of the patients underwent exacerbation and the urinary excretions of N,N-dimethyltryptamine, bufotenine and 5-methoxy-N,N-dimethyltryptamine were increased. In contrast, the 6 normal controls did not exhibit any psychotomimetic symptoms nor did they excrete any of these 3 psychotomimetic compounds in the urine. 26 references. (Author abstract modified)

098095 Charalampous, K. D. Department of Psychiatry, Neurology, and Behavioral Sciences, University of Oklahoma Medical Center, Oklahoma City, Oklahoma Comparison of metabolism of mescaline and 3,4-dimethoxyphenylethylamine in humans. *Behavioral Neuropsychiatry*. 2(11-12):26-29, 1971.

A comparison is made of metabolism of mescaline and 3,4-dimethoxyphenylethylamine in humans, and it is found that 87% of C14-mescaline and 89% of C14-beta-(3,4-dimethoxyphenyl)-ethylamine given orally are recovered in

human urine in 24 hours. The concentration of radioactivity in plasma and cerebrospinal fluid are of similar order for both compounds. In the urine approximately 95% of the radioactivity after C14-mescaline is accounted for. In the urine after C14-beta-(3,4-dimethoxyphenyl)-ethylamine approximately 92% of the radioactivity is divided as follows: 0.2% is associated with beta-(3,4-dimethoxyphenyl)-ethylamine, 90% with 3,4-dimethoxyphenylacetic acid and 1.4% with homovanillic acid. In studies in man beta-(3,4-dimethoxyphenyl)-ethylamine given orally in doses twice those of mescaline produces no effects even after pargyline administration. Beta-(3,4-dimethoxyphenyl)-ethylamine given intravenously presents some effects similar to those usually following much smaller doses of mescaline. These effects are potentiated by pretreatment with nialamide. 17 references. (Journal abstract modified)

098288 Andreasen, N. J. C. author address not given Mechanism of lithium carbonate in manic-depressive illness: a review. *Diseases of the Nervous System*. 32(5):335-341, 1971.

Research into the possible biochemical or metabolic correlates of manic-depressive illness is reviewed. The use of lithium as a treatment for both the manic and depressive phases of the illness is examined. The investigation suggests that lithium may act in 1 of 4 major areas: electrolyte metabolism, neuronal excitability, catecholamine release, or adrenocortical activity. 30 references.

098302 Saldanha, V. F. Columbia University, Veterans Administration Hospital, Bronx, New York 10468 Effect of diazepam (Vallium) on dialysable thyroxine. *Postgraduate Medical Journal (Oxford, England)*. 47(548):326-328, 1971.

The effect of diazepam, Valium, on dialysable thyroxine was investigated. It was found that short-term treatment with diazepam constantly reduced the level of protein-bound iodine, the percentage dialysable thyroxine and the 'free' thyroxine iodine in 10 euthyroid individuals, but the serum levels remained within the normal range. The relevance of these findings to the effect of diazepam on thyroid function is discussed. 14 references. (Journal abstract modified)

098601 Boillat, Joyce E.; Saxena, B. M.; Lehmann, H. E.; Ban, T. A. Douglas Hospital, 6875 Lasalle Boulevard, Verdun, Quebec, Canada Combined administration of thioridazine, nicotinic acid,

and fluoxymesterone in the treatment of geriatric patients. *Current Therapeutic Research*. 13(8):541-544, 1971.

In a 12 week clinical study of 15 geriatric patients, the combined administration of thioridazine, nicotinic acid and fluoxymesterone did not produce beneficial therapeutic effects in the dosages used. The symptoms of emotional withdrawal, mannerisms and posturing and relational ability were negatively influenced. In psychometric testing, Reaction Time and Word Association Time were increased, and Critical Flicker Fusion Frequency decreased. Numerous (32) mild adverse reactions were observed, including 1 case of severe leukopenia, 1 case of tachycardia with vomiting and 1 case of incipient heart failure. In 4 cases a significant weight gain (5 to 12 lbs.) was observed. 8 references.

098636 Garriott, James C.; Stolman, Abraham. Dallas City County Criminal Investigation Laboratory, 5201 Harry Hines Boulevard, Dallas, Texas Detection of some psychotherapeutic drugs and their metabolites in urine. *Clinical Toxicology*. 4(2):225-243, 1971.

Some methods for the detection of some psychotherapeutic drugs and their metabolites in the urine of hospitalized mental patients are discussed. The methods described are those found to be most practical and in most cases provided sufficient sensitivity to identify the drug in small quantities of urine when taken after therapeutic dosage. Observation of some major metabolites provided information in the identification of some of the drugs. 19 references.

098686 Goodwin, Frederick K.; Dunner, David L.; Gershon, Elliot S. Section on Psychiatry, Laboratory of Clinical Science, National Institute of Mental Health, Bethesda, Maryland 20014 Effect of L-DOPA treatment on brain serotonin metabolism in depressed patients. *Life Sciences*. 10(13):751-759, 1971.

L-DOPA given chronically to 5 depressed patients (in combination with a peripheral decarboxylase inhibitor) caused a decrease in the probenecid induced accumulation of 5-hydroxyindoleacetic acid (5HIAA) and an increase in accumulation of homovanillic acid (HVA) in the cerebrospinal fluid (CSF). The decreased accumulation of the acid metabolite of serotonin in the CSF following the blockade of its exit out of the central nervous system by probenecid is sug-

gestive evidence that L-DOPA can decrease brain serotonin turnover in patients. 30 references. (Author abstract)

098750 Fann, William E; Janowsky, David S; Davis, John M; Oates, John A. Department of Medicine, Pharmacology and Psychiatry, Vanderbilt University School, Nashville, Tennessee Chlorpromazine reversal of the antihypertensive action of guanethidine. *Lancet*. 2(7721):436-437, 1971.

In 2 severely hypertensive patients, chlorpromazine blocked the hypotensive action of guanethidine, causing a marked elevation of standing diastolic pressure. Chlorpromazine blocks neuron uptake of guanethidine, where the latter exerts its hypotensive effect. Blood pressure must be carefully monitored when the 2 substances are used together.

099085 Hardin, John A.; Griggs, Robert C. Departments of Medicine and Neurology, Strong Memorial Hospital, Rochester, New York 14620 Diazepam treatment in a case of strychnine poisoning. *Lancet (London)*. 2(7720):372-373, 1971.

A case is cited of a 50 year old beekeeper who used strychnine to control skunks and was brought to the hospital with generalized convulsions and intense pain after ingesting an unknown quantity of the drug in an attempt at suicide. His seizures stopped within 1 minute after he was given diazepam 10mg intravenously. Maintenance intramuscular diazepam was administered (10mg every 6 hours), and no further seizures developed. The patient was admitted to a psychiatric ward. It is suggested that diazepam, which inhibits strychnine induced tonic activity by local effect at the spinal cord level, is a preferred method of controlling such convulsions, rather than a short acting barbiturate or inhalation anesthetic.

099658 Norris, R.V.; Lloyd, Charles W. Psychiatric Service, USAF Hospital, F.E. Warren Air Force Base, Wyoming Psychosexual effects of hormone therapy. *Medical Aspects of Human Sexuality*. 5(9):129, 133, 136-137, 141, 146, 1971.

The biotransformations of administered hormones and their instability in the body make it difficult to interpret their psychosexual effects. More research is needed to determine their specific role in the psychosexual orientation and behavior of the individual human. Various examples of hormone therapy are given and some con-

clusions are: Congenitally hypogonadal males with infantile genitalia usually have little sexual drive or activity; the sexually experienced male who has complete loss of testicular function does not always have immediate and complete loss of potency; and the administration of testosterone to the androgen deficient male usually results in markedly increased sexual drive and potency. In women, androgen may stimulate the sexual drive. The androgen therapy quickly restores sex drive and potency of castrated adult males. Administration of estrogen to sexually active men produces a rapid loss of sexual drive and potency; the effect of progestins on male sexual behavior has not been fully determined; the effects of estrogen and progestins on sexual drive and activity in women are not well defined. 25 references.

099681 Rodger, John R. Bellaire, Michigan Cannabis roots. *Journal of the American Medical Association*. 217(12):1705-1706, 1971.

The digitalis like effect of cannabis roots on the heart muscle is briefly described and some possible historical causes for the adoption of digitalis as the primary pharmacological treatment in various forms of heart disease are suggested. The root was used therapeutically among American Indians and known as Indian hemp, but was apparently replaced by digitalis which was easier to standardize. It is suggested that young people who smoke pot be advised against chewing the roots of cannabis.

099851 Eranerus, Ann-Kathrine, Jagenburg, Rudolf; Rodjer, Stig; Svanborg, Alvar. Dept. of Clinical Chemistry, University of Gothenburg, S-413, Gothenburg, Sweden Inhibition of L-phenylalanine absorption by L-DOPA in patients with parkinsonism. *Proceedings of the Society for Experimental Biology and Medicine*. 137(3):942-944, 1971.

The effects of L-DOPA treatment on the absorption, distribution, and turnover rate of L-phenylalanine have been studied in 9 patients with parkinsonism. L-DOPA, when given with L-phenylalanine, reduced the absorption rate of this amino acid. This effect was only seen when L-DOPA and L-phenylalanine were given simultaneously. L-DOPA did not affect the plasma disappearance curve of intravenously injected L-phenylalanine. The theoretical distribution volume, the distribution rate, and turnover rate of L-phenylalanine were unaffected by the L-DOPA treatment. 8 references. (Author abstract)

100132 Kaldor, A.; Juvancz, P.; Demeczky, M.; Sebestyen, K.; Palotas, J. Second Department of Medicine, University Medical School, Budapest Enhancement of methyldopa metabolism with barbiturate. *British Medical Journal (London)*. 3(5773):518-519, 1971.

The spurious increase in serum catecholamine levels associated with methyldopa treatment can be reduced by the simultaneous administration of phenobarbitone. This accelerating effect of phenobarbitone on methyldopa metabolism has been demonstrated in relation to both adrenaline and noradrenaline, and investigations suggest that it is due to the effect of barbiturate on the activity of metabolizing enzymes. This phenomenon may have practical implications in the treatment of hypertensive patients. 8 references. (Author abstract modified)

100133 Jackson, Graham; Ng, S.H.; Diggle, G.E.; Bourke, Imelda G. Department of Child Health, King's College Hospital, London S.E.5 Strychnine poisoning treated successfully with diazepam. *British Medical Journal (London)*. 3(5773):519-520, 1971.

The use of diazepam in the emergency management of strychnine poisoning is described. Diazepam has an inhibitory effect on polysynaptic reflexes in the spinal cord believed to be by elective increase of presynaptic inhibition mechanisms. It therefore acts specifically against the decrease of the inhibitory mechanisms released by strychnine and blocks the transfer of the increased impulses between spinal segments. Diazepam thus limits the need for prolonged general anesthesia with controlled breathing to the really severe cases. 9 references.

100271 Demers, Robert G.; Heninger, George R. 4940 Eastern Avenue, Baltimore, Md. 21224 Electroradiographic T-wave changes during lithium carbonate treatment. *Journal of the American Medical Association*. 218(3):381-386, 1971.

Serial electrocardiograms were obtained under controlled and double-blind conditions before, during, and after lithium carbonate treatment in 6 manic depressive patients. A statistically significant increase in the frequency of T-wave depression was observed to occur during lithium carbonate treatment in each patient, but no other ECG changes or serum electrolyte abnormalities were observed. The extent of T-wave depression was not related to sodium intake or to serum lithium ion levels. There was no evidence of cardiac

damage as measured by normal serum enzyme studies and circulation times. Slight pretibial edema that occurred was not related to ECG T-wave changes. It is concluded that lithium carbonate treatment has a consistent, but benign and reversible, effect on the myocardium. 15 references. (Author abstract)

**100417 Elliot, H.W.; Parker, K.D.; Wright, J.A.; Nomof, N.** Department of Medical Pharmacology and Therapeutics, University of California, College of Medicine, Irvine, California Actions and metabolism of heroin administered by continuous intravenous infusion to man. *Clinical Pharmacology and Therapeutics*. 12(5):806-814, 1971.

The effects of heroin given to human subjects by continuous intravenous infusion are described. Progressive CNS depression eventually required reversal with levallorphan. There was no indication of development of acute tolerance to the depressant effects of heroin. Blood and urine specimens were collected for analysis of metabolites and analyzed for morphine, 6-monoacetylmorphine, and heroin by gas-liquid chromatography. Blood concentrations were too low to identify any heroin or metabolites, but about 50% of the dose was recovered in the urine mostly as bound morphine with small amounts of 6-monoacetylmorphine and heroin present in some specimens. Rate of excretion of total morphine indicated that man can metabolize about 6mg/93kg/hr. of heroin. 10 references. (Author abstract)

**100418 Johnson, Stephen; Domino, Edward F.** Bernalillo County Medical Center, University of New Mexico, Albuquerque, New Mexico Some cardiovascular effects of marihuana smoking in normal volunteers. *Clinical Pharmacology and Therapeutics*. 12(5):762-768, 1971.

Results of a study of the cardiovascular effects of marihuana smoking in normal volunteers are presented. Marihuana smoking caused a significant increase in heart rate in 25 normal male volunteers. The degree of tachycardia was significantly related to the dose of delta-9-tetrahydrocannabinol (delta-9-THC). The marihuana smoked contained 0.5 and 2.9 delta-9-THC and was compared to extracted marihuana as a control in a single-blind experimental design. Dose of delta-9-THC was expressed as the total amount available in the number of cigarettes smoked under standard conditions. The tachycar-

dia reached a maximum within 30 minutes and persisted longer than 90 minutes. Systolic and diastolic blood pressures were significantly elevated after total doses of marihuana containing more than 10mg of THC, but blood pressure was better correlated to heart rate than to dose. Changes in the electrocardiogram were minimal, but there were premature ventricular contractions in some subjects. 10 references. (Author abstract modified)

**100419 Vesell, Elliot S.; Passananti, Thomas; Lee, Cynthia H.** Pharmacology Department, Milton S. Hershey Medical Center, Pennsylvania State University, University Park, Pa. Impairment of drug metabolism by disulfiram in man. *Clinical Pharmacology and Therapeutics*. 12(5):785-792, 1971.

In a clinical study of impairment of drug metabolism by disulfiram, the drug was administered for either 4 or 10 days to young, otherwise nonmedicated normal volunteers. In all subjects disulfiram prolonged the antipyrine half life and reduced urinary vanilmandelic acid (VMA) excretion; after disulfiram was discontinued, antipyrine half lives and VMA excretion returned toward normal. These results suggest the possibility of toxicity from drug accumulation when certain therapeutic agents are administered simultaneously with disulfiram. Such toxicity from diphenylhydantoin or warfarin has been reported in isolated case studies of patients receiving disulfiram. Since disulfiram administration alters catecholamine metabolism, patients receiving disulfiram should not be expected to exhibit normal parameters of catecholamine turnover. Effects of disulfiram on antipyrine and catecholamine metabolism reveal that disulfiram is not a selective inhibitor of aldehyde dehydrogenase but exerts several discrete inhibitory actions which should be recognized during its administration. 23 references. (Author abstract modified)

**100792 Misra, Prem S.; Lefevre, Andre; Ishii, Hiromasa; Rubin, Emanuel; Lieber, Charles S.** Section of Liver Disease and Nutrition, Veterans Administration Hospital, Bronx, New York 10468 Increase of ethanol, meprobamate and pentobarbital metabolism after chronic ethanol administration in man and in rats. *American Journal of Medicine*. 51(3):346-351, 1971.

A previous study demonstrated that acute ethanol intoxication inhibits the rate of drug metabolism. To investigate the effects of chronic ethanol consumption on ethanol and drug metabolism, 4 alcoholic and 4 nonalcoholic volunteer subjects were given ethanol for 1 month under metabolic ward conditions. This resulted in accelerating the rate of disappearance of ethanol from the blood of the alcoholics and nonalcoholics. In the same volunteer subjects, the rate of disappearance of meprobamate from the blood was also significantly accelerated. Urinary excretion of meprobamate was unaltered. Four to 8 weeks after the end of the ethanol period the rate of disappearance of alcohol and meprobamate from the blood was restored to normal. The half life of pentobarbital which was measured in the 4 nonalcoholic subjects was reduced after one month of ethanol feeding. To study the mechanism of these effects, rat littermates were pair fed adequate diets with 36% of calories either as ethanol or carbohydrates. Liver slices and 9,000g, microsomal preparations obtained from rats fed ethanol for 1 to 3 months showed significant increases in rates of meprobamate metabolism. The study demonstrates that chronic ethanol ingestion results in accelerated drug clearance from the blood caused, at least in part, by enhanced hepatic microsomal drug metabolism. This (in addition to central nervous system adaptation) helps to explain the tolerance to ethanol and other drugs which is known to develop in alcoholics. 4 references. (Author abstract modified)

**100880 Flemenbaum, Abraham.** Author address not given. Methylphenidate: a catalyst for the tricyclic antidepressants. *American Journal of Psychiatry*. 128(2):239, 1971.

Some observations and possibilities are presented for the use of methylphenidate as a catalyst for the tricyclic antidepressants which have been reported to lower a patient's blood pressure. The beginning of a pilot study is noted in which methylphenidate or placebo will be administered on a double-blind basis to depressed patients on tricyclic antidepressants. It is hoped to find a pharmacological weapon to separate the antidepressant and hypotensive effects of the tricyclic antidepressants that will be useful in the study of the physiology of depression. 8 references.

**101864 Slovis, Thomas L.; Ott, John E.; Tettelbaum, Daniel T.; Lipscomb, William.** University of Arizona College of Medicine, Tucson, Arizona. Physostigmine therapy in acute tricyclic antidepressant poisoning. *Clinical Toxicology*. 4(3):451-459, 1971.

The rapid manner in which physostigmine antagonizes the central nervous effects and also reverses the cardiovascular action of the tricyclic antidepressants, is demonstrated. Tricyclic antidepressant intoxications should be treated by inducing emesis if the patient is alert. If he is comatose, an endotracheal tube should be inserted prior to gastric lavage. The patient should be placed on a cardiac monitor for at least 72 hr and should be closely observed for at least one week. Physostigmine (1 to 3mg) should be given intravenously to alleviate cardiac and central nervous system toxic effects, and because of its short action, may be repeated. Sodium bicarbonate and potassium should be given if the cardiac arrhythmia persists after adequate amounts of physostigmine are given. 23 references. (Author abstract modified)

**101936 Misurec, J.; Hadlik, J. Jihlavska 102, Brno-Bohunice, Czechoslovakia** /Electroencephalographic changes during pyridoxine (Encephabol) therapy./ Zmeny elektroencefalogramu pri lecke pyridoxinem (Encephabolem). *Ceskoslovenska Psychiatrie (Praha)*. 67(3):134-142, 1971.

Repeated electroencephalographic examinations during pyridoxine (encephabol) therapy were made in 14 patients with an average age of 70.9 years who were suffering from arteriosclerotic dementia, senile or presenile dementia, or pseudoneurasthenic syndrome in cerebral arteriosclerosis. In the course of treatment, electroencephalographs were evaluated visually and automatically by means of interval and frequency analysis with broad band filters. In the majority of patients, slow waves receded statistically significantly, dominant alpha rhythm was more pronounced, and its frequency often increased. Electroencephalographic changes were found to be caused by the effect of the drug on vigilance. In view of findings provided by previous experiments, it seems possible that pyridoxine affects central nervous system metabolism. Since the relationship between clinical and electroencephalographic changes during pharmacological therapy is not a linear one, it appears that

pyrithioxine is a substance which favorably affects brain electrogenesis. 27 references. (Author abstract modified)

102140 Lyle, W.H. Liverpool, England Mercury poisoning. *New England Journal of Medicine*. 285(20):1148, 1971.

The use of N-acetyl-D,L-penicillamine (NAP) for mercurialism sometimes will increase briefly the urinary excretion of mercury when the source of mercury is inorganic. However, NAP often fails to do this and has never been known to be successful against organomercurial poisoning. Dimercaprol similarly has enjoyed some success against inorganic but little or none against organic mercuric poisoning. However, dimercaprol increases the brain uptake of methyl mercury by mice, and methyl mercury is excreted in the bile and is reabsorbed from the gut by rats. If this situation is the same in man, the administration of dimercaprol might increase the uptake of mercury from the gut. 4 references.

102288 DeHaan, J.; Stolte, L.A.M. Department of Obstetrics and Gynaecology, Academisch Ziekenhuis der Vrije Universiteit, Amsterdam, Holland Drugs and the fetal heart rate. *British Medical Journal (London)*. 4(5780):171, 1971.

Effects on the fetal heart rate pattern of analgesics or central depressor drugs administered to the mother are discussed. The normal fetal heart rate pattern shows both short-term and long-term irregularity. The short-term irregularity decreases or even disappears, producing a silent fetal heart rate pattern, after administration to the mother of analgesics or central depressor drugs such as diazepam (10mg i.v.), meperidine (75mg i.m.), phenobarbitone (75mg i.m.), mephobarbitone (75mg i.m.), or the combination of meperidine (50mg i.m.) with promazine hydrochloride (25mg i.m.). Cases of anencephaly with short-term irregularity of the fetal heart, or a silent fetal heart rate pattern have been seen. Evidently short-term irregularity can occur in the absence of the cerebral cortex, and this suggests that the central depressor drugs must be acting at a lower level of the central nervous system (possibly hypothalamus or medulla oblongata) when they abolish the short-term irregularity. The short-term irregularity appears to result from oscillating vagal activity. 4 references.

102604 Misurec, J.; Hadlik, J. Jihlava 102, Brno-Bohunice, Czechoslovakia /Electroencephalographic changes during pyrithioxine (encephabol) therapy./ Zmeny elektroencefalogramu pri lecke pyrithioxinem (encephabolem). *Ceskoslovenska Psychiatrie (Praha)*. 67(3):134-142, 1971.

Repeated electroencephalographic examinations during pyrithioxine (encephabol) therapy were made in 14 patients with involuntional psychiatric disorders. Electroencephalograms were evaluated visually and automatically by means of interval and frequency analysis with broad band filters. In the course of therapy, there was statistically significant recession of slow waves in the majority of patients, dominant alpha rhythm was more pronounced, and its frequency often decreased. Electroencephalographic changes were interpreted as due to the drug effect on vigilance. The possible effect on central nervous system metabolism is discussed. 27 references. (Author abstract)

102611 Schwarz, Conrad J. Vancouver, British Columbia Cannabis roots. *Journal of the American Medical Association*. 218(9):1434-1435, 1971.

A letter to the editor states that the folk medicine use of Cannabis roots for diuresis (previously mentioned by Rodger) has already received some attention in the work of Ames. She found the diuretic effect of extracts of the whole plant sufficiently marked that she suggested a therapeutic potential which has not received much further attention. Such a diuretic effect, if associated with dehydration, might in part explain the universal thirst experienced during marijuana smoking and also the recently reported findings of reduced intraocular pressure by Hepler and Frank. Attention is being drawn to the wide variety of physical effects of cannabis which are to be found in the older literature. It is suggested that physicians will find interesting clinical material if they conduct a detailed functional inquiry and mental status examination, not only in relation to the acute intoxicated state but also covering the general functioning of the regular user. Such an approach in interviewing patients appears to have some therapeutic educational value in drawing their attention to generally ignored effects of cannabis. 2 references. (Author abstract)

102668 Mogillina, N.P. Moskovskii nauchno-issledovatel'skii Institut psikiatrii MZ RSFSR, Moscow, USSR /Some pathophysiological features

of the effect of aminazine in the stuporous syndrome./ Nekotorye patofiziologicheskie osobennosti delstvija aminazina pri stuporoznom sindrome. In: *Semenov, S., Voprosy kliniki i terapii psikhicheskikh zabolevanii*. Moscow, Ministerstvo Zdravookhraneniia SSSR, 1971. 276 p.(p.83-88).

The effect of aminazine on muscular electroactivity was studied with 22 patients suffering from schizophrenia with different variants of the stuporous syndrome and with 10 patients manifesting lingering psychogenetic stupor. Aminazine was found to lower the bioelectrical activity of electromyographic indicators (both amplitude and frequency) in all subjects. In schizophrenic patients with the catatonic syndrome, aminazine did not change the disturbed relationship of antagonistic muscles. In patients with reactive stupor, an equalization and even normalization of this relationship was observed. Results indicate that the oppression of the electrogenesis of muscles which is apparent in the electromyogram after administration of aminazine is due to the strengthening of descending inhibitory influences on the motoneurons, an effect caused by the drug.

102735 Kraml, M.; Sestanj, K.; Dvornik, D. Department of Biochemistry, Ayerst Research Laboratories, Montreal, Quebec, Canada Metabolism of the anticonvulsant 10,11-dihydro-5H-dibenzo(a,d) cycloheptene-5-carboxamide -- I. Metabolic fate of (14C)cyheptamide in animals and man. *Biochemical Pharmacology (Oxford)*. 20(9):2327-2338, 1971.

The metabolic fate of the anticonvulsant cyheptamide (AY-8682) was investigated in animals and man. In the rat 014CONH20cyheptamide is rapidly metabolized. Hydroxylation and conjugation are the major modes of metabolism. Cleavage of C-5 from the dibenzo-cycloheptadiene ring does not occur. 10,11-Dihydro-10,5-(epoxymethano)-5H-dibenzo(a,d) cyclohepten-13-one (lactone) was isolated and fully characterized from acid-hydrolyzed urine samples of rat, rabbit, dog and man. The lactone is an artifact that arises from the acid-catalyzed transannular lactone formation between the C-10-hydroxyl and the C-5-carboxamide group of the true metabolite, syn-10-hydroxy-cyheptamide. Further oxidation is species dependent and in rat and man occurs at C-5 and in the dog and rabbit at C-11. Syn-11-hydroxy-lactone and 5-hydroxy-lactone were isolated and fully characterized from acid-hydrolyzed rabbit and human urine respectively. Cyheptamide also

undergoes aromatic hydroxylation, and two monophenolic metabolites were isolated. The exact position of attachment of the phenolic hydroxyl group remains to be established. 14 references. (Author abstract modified)

102827 Iablonskikh, P.M. Moskovskii nauchno-issledovatel'skii Institut psikhiatrii MZ RSFSR, Moscow, USSR /Treatment of patients with traumatic epilepsy in the initial period of the disease./ Lechenie bol'nykh travmaticheskoi epilepsiei v nachal'nom periode zabolevanii. In: *Semenov, S., Voprosy kliniki i terapii psikhicheskikh zabolevanii*. Moscow, Ministerstvo Zdravookhraneniia SSSR, 1971. 276 p.(p. 129-132).

The masked or latent period of epilepsy comprises the time between the first manifestation of craniocerebral trauma and the first symptoms of epilepsy. In the next, manifest period, residual manifestations of craniocerebral trauma affect the development of epilepsy to a lesser degree. Due to the gradual and progressively more complex nature of the development of pathogenetic mechanisms in traumatic epilepsy, therapy should consist of combined medicinal treatment. Disorders of intracranial pressure usually follow craniocerebral trauma; in these cases, successive and alternating dosages of drugs preventing vascular hypertension are recommended between courses of injections of hypertonic solutions. The complex method of treatment in the initial period of the disease should combine healthy organization of work and rest with administration of pharmacological preparations which decrease the convulsive disposition of the brain and which are directed towards normalizing the metabolism and the neurodynamic processes of the central nervous system.

102836 Baker, E.F.W. Department of Psychiatry, University of Toronto Blood pressure/pulse responses to intravenous methacholine in psychiatric illness. *Canadian Psychiatric Association Journal (Ottawa)*. 16(5):441-443, 1971.

A ratio between the areas of systolic blood pressure fall and pulse rate rise was found to be low in manic psychosis and high in psychotic depressive reaction. The hypotensive stressor was intravenous methacholine chloride given steadily over a fixed time period in a dosage related to body weight. 6 references. (Author abstract)

103630 Medansky, Roland S. 3200 Dempster, Des Plaines, Illinois 60016 Emotion and skin: a double blind evaluation of psychotropic agents. *Psychosomatics*. 12(5):326-329, 1971.

A randomized double blind study evaluated the role of psychotropic drugs on dermatologic conditions in patients in whom the organic causes and emotional disorders collaborate in different degrees in causing a skin disorder. The patients selected were from both sexes and all ages displaying mild anxiety, nervousness, apprehension, fatigue, or insomnia. Although there was no definitive evidence that the addition of a psychotropic agent to a placebo specifically yielded benefit in the treatment of anxiety associated with dermatologic conditions, a large proportion of patients can be helped. Further research is indicated. 10 references.

103955 Pragg, H.M.van; Schut, T.; Bosma, E.; Bergh, R.van den. Dept. of Biological Psychiatry, Psychiatric Univ. Clinic, Oostersingel 59, Groningen, The Netherlands A comparative study of the therapeutic effects of some 4-chlorinated amphetamine derivatives in depressive patients. *Psychopharmacologia (Berlin)*. 20(1):66-76, 1971.

A comparative study of the therapeutic effects of some 4-chlorinated amphetamine derivatives in depressive patients was made. The compounds 4-chloro-N-methylamphetamine (CMA) and 4-chloro-amphetamine (4-CA) are probably depleters of 5-hydroxytryptamine (5-HT). In rat brains, the 5-HT depleting potency of 4-CA exceeds that of CMA. In depressive patients, moreover, CMA behaves as an antidepressant. In view of these findings, 2 hypotheses were tested: 1) if there is any correlation between the 5-HT depleting potency of CMA and 4-CA on the one hand, and their antidepressant potency on the other, then the therapeutic potency of 4-CA must be expected to exceed that of CMA; 2) in view of the hypothesis that the motor activating effect of antidepressants is of largely noradrenergic determination, and their mood improving effect largely serotonergic, the effect of CMA and 4-CA on motility can be expected to be small, and their effect on mood therefore more or less selective. No unequivocal confirmation of these hypotheses was found. 30 references. (Author abstract modified)

104368 Gentles, W.; Thomas, E.Llewellyn. Department of Pharmacology and Institute of Bio-Medical Electronics, University of Toronto, Canada

Effect of benzodiazepines upon saccadic eye movements in man. *Clinical Pharmacology and Therapeutics*. 12(4):563-574, 1971.

The saccade or jump which the eye makes as it goes from one fixation point to another is the most common type of eye movement, but little is known about the factors which affect the velocity of the jump. In this study a model of the eye movement control system developed by Cook and Stark was used to predict the effect of muscle relaxant drugs upon the peak velocity and the magnitude of the saccade in man. It was found that 30mg of chlordiazepoxide and 5mg of diazepam reduced the peak saccadic velocity by about 11%. Further studies with diazepam in various doses have shown this effect to be stable and reproducible in individuals. These findings may have potential value as a method of bioassay in the intact human being and they exemplify how drugs may affect psychomotor performance. 17 references. (Author abstract)

104427 Cryer, Philip E.; Sode, Jonas. Department of Medicine, Washington University School of Medicine, St. Louis, Mo. 63110 Drug interference with measurement of adrenal hormones in urine: analgesics and tranquilizer-sedatives. *Annals of Internal Medicine*. 75(5):697-702, 1971.

Twenty four hour urinary 17-hydroxycorticoids, free 11-hydroxycorticoids, 17-ketosteroids, and catecholamines were measured repetitively in a volunteer subject during control and base-line periods and during the short-term ingestion of relatively small doses of commonly used analgesic and tranquilizer - sedative drugs. The ingestion of propoxyphene, 65mg, 3 times daily, was associated with significant depression of the urinary 17-hydroxycorticoids and 17-ketosteroids; significant depression of the 17-hydroxycorticoids and free 11-hydroxycorticoids occurred during the ingestion of pentazocine, 50mg, twice daily. In the dosages used, the short-term ingestion of acetylsalicylic acid, acetaminophen, chlordiazepoxide, diazepam, phenobarbital, or diphenhydramine did not interfere with the measurement of 17-hydroxycorticoids, free 11-hydroxycorticoids or 17-ketosteroids in the urine. None of the drugs tested interfered with the measurement of urinary catecholamines, norepinephrine, or epinephrine. 28 references. (Journal abstract)

104441 James, J.Frank; Reilly, Edward. North Carolina Department of Mental Health, Cherry

Hospital, Goldsboro, N.C. The electroencephalographic recording of short- and long-term lithium effect. *Southern Medical Journal*. 64(11):1322-1327, 1971.

The effects of short-term and long-term maintenance of lithium administration on dominant frequency, beta activity, and recorded abnormalities were examined. The frequency change does not appear to be a result of conversion from beta to alpha, but beta activity does appear to be related to the clinical state. Beta activity and its conversion to alphas by lithium may be related to the manic phase of the circular type manic depressive psychosis. This finding was not related to age, sex, or serum lithium level. The appearance of abnormality after a base line normal recording was not related to serum level in at least 4 of 5 cases examined. Lithium may have therapeutic advantage for the organic brain syndrome. 11 references.

104570 Sjöström, Rolf. Psychiatric Research Center, Ulleraker Hospital, University of Uppsala, S-75017 Uppsala, Sweden Effects of alpha-methyl-tyrosine on the cerebrospinal fluid content of HVA and 5-HIAA in man. *Psychopharmacologia (Berlin)*. 22(2):214-216, 1971.

An investigation was done to study the effects of alphamethyl-p-tyrosine (alpha-MT) on homovanillic acid (HVA) and 5-hydroxyindoleacetic acid (5-HIAA) in cerebrospinal fluid (CSF) in man with and without probenecid application. The study was performed on 5 patients hospitalized for mental illness. All 5 were free of any drugs during the full period of investigation. It was found that alpha-MT induced a pronounced decrease of the concentration of HVA, but did not decrease the concentration of 5-HIAA in CSF. Also, the increase in HVA after probenecid was less after alpha-MT pretreatment, indicating that alpha-MT reduces the turnover of dopamine; alpha-MT had no apparent effect on the turnover of 5-hydroxytryptamine. The investigation shows that it is possible to detect in CSF of man the lowering of catecholamine synthesis induced by alpha-MT. 13 references.

104571 Fann, William E.; Cavanaugh, John H.; Kaufmann, John S.; Griffith, John D.; Davis, John M.; Janowsky, David S.; Oates, John A. Department of Psychiatry, Duke University, Medical Center, Durham, N.C. 27705 Doxepin: effects on transport of biogenic amines in man. *Psychopharmacologia (Berlin)*. 22(2):111-125, 1971.

A new tricyclic antidepressant, doxepin, was evaluated for its ability to block the amine uptake mechanism of the peripheral adrenergic neuron and blood platelet in man. At low doses, there was not evidence of inhibition of the amine pump. However, at moderate doses (200-300mg/day), necessary for effective antidepressant activity, doxepin was found to inhibit the pressor responses to tyramine and to reduce platelet 5-HT. These studies indicate that doxepin is a less potent inhibitor of the amine pump in the peripheral adrenergic neuron and blood platelet than is DMI or protriptyline. Doxepin, at the antidepressant dose level does alter biogenic amine uptake, an effect consistent with the biogenic amine hypothesis of depression. However, at 300mg/day, a dose which blocks the pressor response to tyramine, antagonism of the antihypertensive effects of guanethidine and related drugs was demonstrated. 45 references. (Author abstract)

104616 Klaiber, Edward L.; Kobayashi, Yutaka; Broverman, Donald M.; Hall, Fernando. Worcester Foundation for Experimental Biology, Shrewsbury, Massachusetts 01545 Plasma monoamine oxidase activity in regularly menstruating women and in amenorrheic women receiving cyclic treatment with estrogens and a progestin. *Journal of Clinical Endocrinology and Metabolism*. 33(4):630-638, 1971.

Plasma monoamine oxidase (MAO) activity is examined in the pre- and postovulatory phases of the menstrual cycle of regularly menstruating women, in amenorrheic women, in postmenopausal women, and in amenorrheic and postmenopausal women treated with estrogens and a progestin. MAO activity was significantly greater in the postovulatory than the preovulatory phase of the cycle. The MAO activity of untreated amenorrheic and postmenopausal women was significantly greater than the postovulatory phase of regularly menstruating women. Estrogen treatment significantly reduced MAO activity in the amenorrheic and postmenopausal women; estrogen plus progestin significantly increased the MAO activity of the amenorrheic women over their estrogen treatment levels. The significance of the ovarian hormones for adrenergic brain processes is discussed. 39 references. (Author abstract)

104764 no author. author address not given Cannabis: chemistry and biology. *Nature (London)*. 234(5323):14, 1971.

A symposium on the chemistry and biological activity of cannabis, sponsored by the Swedish Academy of Pharmaceutical Sciences is reported. The symposium featured 4 major topics: (1) the metabolism of the active tetrahydrocannabinol (THC); (2) the scientific complexity of the cannabis problem; (3) the question of whether cannabis is harmful to health; (4) therapeutic substances that may emerge from THC.

**104789 Fruhauf, A.; Graupner, K.; Kalman, E.; Wilde, U.** Augenklinik der Med.Akad.Dresden DDR-8019 Dresden, Fetscherstr.74, Germany /The critical flicker fusion during the action of different drugs: I. Coffeine and meprobamate (including a full description of the method). Die Flimmer-Verschmelzungs-Frequenz unter dem Einfluss verschiedener Pharmaka: I. Coffein und Meprobamat (einschliesslich eingehender Beschreibung der Untersuchungstechnik). *Psychopharmacologia (Berlin)*. 21(4):382-389, 1971.

Coffeine, meprobamate, and a placebo were investigated for their effects upon the critical flicker fusion (FVF) in 2 groups of persons of different ages. In all cases coffeine blocked a decrease of the FVF, and the FVF decreased after meprobamate much more than after placebo. A different reaction between the members of the 2 groups A and B was seen after placebo. 15 references. (Author abstract modified)

**104798 Ozek, Metin; Toreci, Kurtulus; Akkok, I.; Guvener, Z.** Psychiatrische Univ.-Klinik, Istanbul, Turkey (P.K.23 Tesvikiye) /The influence of treatment with neuroleptics upon the antibody-formation./ Die Wirkung der Neuroleptica-Behandlung auf die Antikörperbildung. *Psychopharmacologia (Berlin)*. 21(4):401-412, 1971.

In a study of neuroleptic treatment effects on antibody formation, the antigen of Salmonella-Nashua strain, which has never been found to cause human infection, was supplied to Ss. The 3 groups of test subjects included: 33 patients with acute and subacute schizophrenic psychosis under treatment with neuroleptics; 54 patients in schizophrenic defective and end states without any treatment for 12 months; and 30 healthy test controls. The formation of immunoglobulins was determined with titration method weekly. The reaction of antibody development in the group with healthy persons was fastest and highest in comparison with the other 2 groups. The psychotics under treatment with neuroleptics

reacted after a latency period with an intensity very nearly equal to the reaction of healthy test Ss, while ultimately their reaction was even more pronounced. The chronic and defective schizophrenics were producing the antibody apparently more slowly and at a lower level. These observations can be interpreted as a reflection of a corrected capacity of reaction in an organism to build immunoglobulins while under treatment with neuroleptics. 13 references. (Author abstract modified)

**104829 van Praag, H.M.; Korf, J.** Psychiatric University Clinic, Div.of Biological Psychiatry, Oostersingel 59, NL-Groningen, The Netherlands Retarded depression and the dopamine metabolism. *Psychopharmacologia (Berlin)*. 19(2):199-203, 1971.

In a study of retarded depression and the metabolism of dopamine it was demonstrated that the influence of i.v.administered probenecid on homovanillic acid (HVA) concentration in cerebrospinal fluid (CSF) was less pronounced in a group of retarded depression than in a group of nonretarded depression and a nondepressive control group. The figures corresponded to that found in Parkinson patients. These findings suggest a decreased consumption of dopamine in the brain in retarded depression. This might be understood as an indication that, disorders of cerebral dopamine metabolism are related not so much to a specifichypokinesia. 21 references. (Author abstract modified)

**104832 van Pragg, H.M.; Korf, J.** Department of Biological Psychiatry, Psychiatric University Clinic, Oostersingel 59, Groningen, The Netherlands Endogenous depressions with and without disturbances in the 5-hydroxytryptamine metabolism: a biochemical classification? *Psychopharmacologia (Berlin)*. 19(2):148-152, 1971.

The influence of i.v.administered probenecid on the 5-hydroxyindoleacetic acid (5-HIAA) concentration in the cerebrospinal fluid (CSF) was studied in a group of patients with vital (endogenous) depression and a nondepressive control group. The average increase of the 5-HIAA concentration in the CSF after probenecid administration was smaller in the depressive group than in the control group. Moreover, the depressive group included patients with a normal as well as patients with a subnormal probenecid effect. This could mean, that the group of vital depressions encompasses 2 biochemically different categories: pa-

tients with and patients without demonstrable disturbances in the metabolism of 5-HT in the brain. 20 references. (Author abstract)

105009 Ittl, T.; Keskiner, A.; Han, H.; Hsu, W.; Ulett, G. Dept. of Psychiatry, Univ. of Missouri, 5400 Arsenal St., St. Louis, Mo. 63139 EEG changes after fluphenazine enanthate and decanoate based on analog power spectra and digital computer period analysis. *Psychopharmacologia (Berlin)*. 20(3):230-241, 1971.

Quantitative EEG investigations, using an analog frequency analyzer and digital computer period analysis, were carried out following single parenteral injection of 2 long acting fluphenazine derivatives, decanoate and enanthate. Both quantitative methods of analysis demonstrated that fluphenazine decanoate and enanthate produce significant EEG alterations which are similar to changes induced both by fluphenazine hydrochloride and by other known major tranquilizers (EEG profile of major tranquilizers). Maximum EEG changes occurred during the first week after enanthate, while they occurred during the second week following decanoate injection. These findings confirmed the metabolic and behavioral studies in animals regarding the long action of both compounds and, in particular, they demonstrated that the activity of fluphenazine decanoate is longer in duration than fluphenazine enanthate. 22 references. (Author abstract)

105083 Jonsson, Lars-Erik; Anggard, Erik; Gunne, Lars-M. Psychiatric Research Center, Ulleraker Hospital, Uppsala, Sweden Blockade of intravenous amphetamine euphoria in man. *Clinical Pharmacology and Therapeutics*. 12(6):889-896, 1971.

The blockade of intravenous amphetamine euphoria in human is described with particular note of precise dosage, duration and other characteristics of the blockade. In 29 Ss with a history of periodic amphetamine abuse, the euphoric effect of 200mg of D,L-amphetamine intravenously was reduced or abolished by oral pretreatment with alpha-methyl-p-tyrosine (alpha-MT) 2.0 to 4.0Gm. The blockade of the amphetamine induced euphoria lasted for about 24 hours. After 1 week of daily administration of alpha-MT, there was a reduction of the antiamphetamine effect. Three days after withdrawal, the renewed administration of alpha-MT again caused a high degree of blockade of amphetamine induced euphoria. 27 references. (Author abstract modified)

105536 Asberg, Marie; Cronholm, Borje; Sjoqvist, Folke; Tuck, Dick. Department of Psychiatry, Karolinska Sjukhuset, S-104 01 Stockholm, Sweden Relationship between plasma level and therapeutic effect of nortriptyline. *British Medical Journal (London)*. 3(5770):331-334, 1971.

The relationship between plasma concentration of nortriptyline and therapeutic effect after 2 weeks' treatment with the drug was investigated in 29 psychiatric inpatients. Endogenous depression was diagnosed in all patients. Amelioration of depressive symptoms was estimated as reduction in score on a rating scale, based on a psychiatric interview. There was a curved relationship between plasma level of nortriptyline and therapeutic effect. Amelioration was most pronounced in the intermediate plasma level range (50-139ng nortriptyline/ml plasma) and was slight both at lower and at higher plasma levels. This type of relationship may be due to the dual action of tricyclic antidepressants which has been found in animal experiments. On larger dosages a phenothiazine like blockade of the monoaminergic receptor is added to the blockade of monoamine reuptake thought to be related to the antidepressant action of the drugs. This study thus suggests 2 possible reasons for a therapeutic failure with nortriptyline: a too low or a too high plasma level. The large individual variation in the pharmacokinetics of the tricyclic antidepressants makes prediction of plasma level from dosage in a given individual virtually impossible without knowledge of rate of elimination and apparent volume of distribution. Monitoring plasma levels may be a way to increase the efficacy of treatment with these drugs. 19 references. (Journal abstract modified)

106000 Kolarik, J. Institute of Higher Nervous Activity, I.P. Pavlova 13, Olomouc 5, Czechoslovakia EEG changes after psilocybin in organic brain lesions. *Activitas Nervosa Superior (Praha)*. 13(3):216-217, 1971.

Fifty four subjects with organic brain lesions of various localities and etiology, mostly verified neurosurgically, were investigated for the effect of psilocybin in a mean dose of 0.16mg/kg on the electroencephalogram. The most typical finding following psilocybin administration was desynchronization. The 4 functional levels within the central nervous system from which a generalized desynchronization may be evoked are the levels of the pontine reticular formation, reticular ascending activating system, recruiting system at

the level of the medial thalamus, and the cortical neurons. 8 references.

**106001 Kolarik, J.** Institute of Higher Nervous Activity, I.P.Pavlova 13, Olomouc 5, Czechoslovakia Different reaction of focal and diffuse epileptic EEG activity to psilocybin. *Activitas Nervosa Superior (Praha)*. 13(3):215-216, 1971.

Thirty epileptic patients received psilocybin and were observed for electroencephalographic changes. Before psilocybin was administered, pathological changes were present in all the patients. The drug was found to provoke a general desynchronization in 27, increased focal epileptic activity in 7, and unchanged or attenuated activity in 14. Diffuse epileptic activity in 17 patients before the application of psilocybin persisted in only 3 patients afterwards. Hyperexcitability of the cortical neurons produced by the drug may be analogous with their pathological irritability, which provokes focal epileptic manifestations. 4 references.

**106095 Rysanek, K.; Haskovec, L.; Konig, J.** Department of Infectious Diseases, J.E.Purkyne University, Brno-Bohunice, Czechoslovakia The effect of reserpine and nortriptyline on the excretion of 17-hydroxysteroids. *Activitas Nervosa Superior (Praha)*. 13(3):224, 1971.

Nine healthy student volunteers were given nortriptyline and reserpine to test the effect of these substances on the excretion of 17-hydroxysteroids. Nortriptyline was administered intramuscularly in a dosage of 50mg and was followed 2 hours later by 50mg of intramuscular reserpine. After reserpine alone, the steroid excretion increased by 87.78%, and after nortriptyline alone, the excretion increased by 74.64%. However, steroid excretion increased only 4.98% over the control following the administration of both substances. This apparent antagonism may be a result of the fact that nortriptyline prevents the non-specific transitory stress reaction induced by reserpine or decreases the permeation of reserpine to centers responsible for the mobilization of the steroids. 2 references.

**106136 Dundee, J.W.; Howard, A.J.; Isaac, M.; Taggart, J.; Howard, P.J.** Dept. of Anaesthetics, Queen's University of Belfast, Belfast, Northern Ireland Alcohol and the benzodiazepines: the interaction between intravenous ethanol and chlordiazepoxide and diazepam. *Quarterly Journal of Studies on Alcohol* 32(4):960-968, 1971.

An investigation of the effect of chlordiazepoxide and diazepam on the soporific action of intravenous ethano, was undertaken in healthy women undergoing minor surgery. Compared with a control series, small doses of diazepam with alcohol enabled sleep induction in more patients and 100mg of chlordiazepoxide with alcohol in fewer patients. The latter effect was statistically significant. The complete operation could be carried out with ethanol nitrous oxide oxygen alone in fewer patients than in any other series studied, which points to an antagonism between this dose of chlordiazepoxide and alcohol. The average doses of alcohol required to produce sleep after 100 or 140mg of chlordiazepoxide were also greater than in the control series. Chlordiazepoxide also qualitatively affected response to ethanol, with more patients becoming delirious during induction and a greater frequency of postoperative delirium. Diazepam caused no detectable antagonism to the effects of alcohol. It is concluded that, by some unknown mechanism, large clinical doses of chlordiazepoxide increase cerebral tolerance to alcohol. 19 references.

**106429 Mathe, A.A.; Astrom, A.; Persson, N.-A.** Psychophysiology Laboratory, Division of Psychiatry, Boston University School of Medicine, Boston, Massachusetts Some bronchoconstricting and bronchodilating responses of human isolated bronchi: evidence for the existence of alpha-adrenoreceptors. *Journal of Pharmacy and Pharmacology (London)*. 23(12):905-910, 1971.

The results of a study of a number of sympathomimetic amines and some beta-adrenoceptor blockers thought to be of particular interest in producing bronchoconstriction in animal experiments are reported. Isolated strips of human bronchi obtained during thoracic surgery exhibited pharmacological responses very similar to those of other species (guinea pig). Analysis of the action of some sympathomimetic amines indicated that the human bronchi also possess a sparse population of alpha-adrenoreceptors. Propranolol had a direct bronchoconstricting action, whereas another beta-adrenoceptor blocking agent, alprenolol, produced bronchodilatation. Phenolamine also produced a bronchodilatation of its own. Theophylline and dibutyl cyclic AMP produced dose dependent relaxations. The strips were effectively contracted by acetylcholine, histamine, prostaglandin, slow reacting substance (SRS) and bradykinin. Bradykinin, regardless of the dose, produced bronchoconstriction in some

preparations and dilatation in others. 5-Hydroxytryptamine produced bronchodilatation but at very high concentrations a constriction was obtained. 27 references. (Author abstract modified)

**106616** van der Kleijn, Eppo; van Rossum, Jaques M.; Muskens, Elly T.J.M.; Rijnthjes, Nico V.M. Department of Pharmacology, University of Nijmegen, Nijmegen, Holland Pharmacokinetics of diazepam in dogs, mice and humans. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 3):109-127, 1971.

Single dose, steady state, and post steady state kinetics of diazepam and its primary metabolite, desmethyldiazepam, were studied in mice, dogs, and humans. Distribution in mice shows that diazepam is rapidly taken up in the brain, but that it is also rapidly eliminated there and, more slowly, from the body fat. Retention of radioactivity can be observed in the gastrointestinal tract and the excretory organs. Studies in dogs showed that the drug is also rapidly metabolized resulting in identified and unidentified metabolites some of them having a longer biological half-life. Blood plasma concentrations of drug and metabolite were followed during single dose, subchronic and post subchronic treatment with diazepam in psychiatric patients. The accumulation of metabolites in the gastrointestinal tract as observed in animal studies after intravenous administration is suggested to influence the kinetics of absorption and reabsorption together with environmental factors. 23 references. (Author abstract modified)

**106846** Richardson, J.Steven; Stacey, P.David; de Camp, Margo O. NIMH, Laboratory of Clinical Science, Bethesda, Maryland 20014 A possible synaptic mechanism underlying the similar behavioural effects of adrenaline-like and acetylcholine-like drugs. *Journal of Pharmacy and Pharmacology (London)*. 23(11):884-886, 1971.

There are many situations in which adrenaline like and acetylcholine like compounds produce similar effects; both amphetamine and atropine disrupt timing behavior on Fixed Interval and on differential reinforcement of low rates of response. The hypothesis of acetylcholine mediated release of noradrenaline is increased by atropine, a finding that would be expected since it has been demonstrated that the nicotinic release of noradrenaline in the heart is blocked by muscarinic activity. Although the existence of a

pure cholinergic synapse is confirmed, one in which only acetylcholine participates in neurotransmission, the histological and behavioral separation of dual and pure cholinergic synapses remains to be accomplished. 35 references.

**106908** Beckett, A.H.; Brookes, L.G. Dept. of Pharmacy, Chelsea College (University of London), Manresa Road, London, S.W.3, U.K. Administration of two of more related drugs to investigate the effect of molecular modification and formulation on drug absorption, metabolism and excretion. *Journal of Pharmacy and Pharmacology (London)*. 23(11):837-841, 1971.

Two or more related drugs of the amphetamine class were simultaneously administered to men under acidic urine control, their urinary excretion being examined by gas-liquid chromatography. This was shown to be a suitable procedure for determining the effect of molecular modification and formulation on drug absorption, metabolism, and excretion. There was no significant difference in the total urinary excretion of the compounds when given singly or with other drugs. Halogen substitution in the amphetamine model causes more extensive metabolism of the drug. Substitution by a second methyl group on the alpha carbon atom reduces metabolism but has no influence on the rate of absorption. N-alkylation increases metabolism. A marker drug was used to illustrate the effects of formulation on the urinary profiles of ethylamphetamine and phentermine. Resin bonding of phentermine and sugar coated tableting of ethylamphetamine delay the time of maximum excretion and significantly reduce the rate and total amount of drug absorption from the gut. 14 references. (Author abstract modified)

**107465** Davis, Leo J., Jr.; Muentner, Manfred D. Department of Psychiatry and of Clinical Psychology, Mayo Clinic, Rochester, Minn. Psychomotor performances of patients undergoing L-dopa therapy. *Perceptual and Motor Skills*. 33(3):1303-1308, 1971.

Eleven patients undergoing L-dopa therapy for Parkinson's disease were evaluated using 3 psychomotor measures designed to assess functioning of the upper extremity. The patients were tested prior to L-dopa therapy, when they had reached optimum dosages of L-dopa, and finally, during a period when they had been placed on a placebo. Significant differences were found on 2 of the 3 measures between pretreatment and L-

dopa periods, and between pretreatment and placebo periods. No significant differences were found between L-dopa and placebo periods, however. 7 references. (Author abstract modified)

107548 Malitz, Sidney. New York State Psychiatric Institute, New York, New York L-DOPA and behavior. New York, Raven Press, 1971. 150 p. \$9.75.

Current experience with L-dopa and its impact on human behavior are summarized. Specific topics considered include: behavioral abnormalities occurring in Parkinsonism during treatment; brain dopamine and behavior; treatment of impotence and depression; current research on L-dopa in depression and mania; L-dopa as a psychiatric tool.

107716 Schussler, George C. Buffalo, N.Y. Similarity of diazepam to diphenylhydantoin. *Journal of the American Medical Association*. 218(12):1832, 1971.

In supporting the use of diphenylhydantoin to prevent delirium tremens and convulsions during alcohol withdrawal, Adams mentions the structural similarity between diphenylhydantoin and phenobarbital. X-ray crystallographic studies have recently shown a remarkable similarity between the stereochemical structures of diphenylhydantoin and diazepam. The latter is widely used in the treatment of delirium tremens. It has been suggested that the structural similarity between diphenylhydantoin and diazepam permits these compounds to bind to the same central nervous system receptors, thus explaining their similar anticonvulsant effects. While this has yet to be demonstrated directly, it has been possible to show competitive binding of both diphenylhydantoin and diazepam to serum thyroxine binding globulin, indicating that structural similarity is present under physiological conditions. 3 references. (Author abstract modified)

107728 Mashkovskii, M.D.; Al'tshuler, R.A.; Avrutskii, G.Ia.; Aleksandrovskaia, Iu.A.; Smulevich, R.L. Vsesoiuznyi nauchno-issledovatel'skii khimiko-farmatsevticheskii institut imeni S.Ordzhonikidze, Moscow, USSR /Experimental and clinical investigation of the new psychostimulator sydnocarb. / Eksperimental'noe i klinicheskoe izuchenie novogo psikhostimulirovannogo sredstva. *Zhurnal Nevropatologii i Psikiatrii imeni S.S.Korsakova (Moskva)*. 71(11):1704-1709, 1971.

Sydnocarb (N-phenylcarbamoyl derivative of 3-beta-phenylisopropyl - sidnonimin) exerts an expressed central stimulating action on experimental animals. The preparation is not very toxic and, according to some pharmacological indices of its influence on the central nervous system, differs from phenamine. Sydnocarb was given to 406 patients who were divided into the diagnostic groups of asthenic and neurasthenic states after intoxications, infections, and brain trauma (184 patients) and schizophrenics (222 patients). The obtained data testify to a high efficacy of this preparation in asthenic, adynamic, and apathic disorders. The stimulating action of sydnocarb is not accompanied by euphoria or peripheral sympathomimetic effects. Patients receiving sydnocarb from 2 months to 1 year and longer did not experience any symptoms of physical or mental dependence on the preparation. 12 references. (Author abstract)

108520 Essman, Walter B. Department of Psychology, Queens College of the City University of New York, Flushing, New York Drug effects and learning and memory processes. In: Garattini, S., *Advances in pharmacology and chemotherapy*. New York, Academic Press, 1971. 357 p.(p.241-330), Vol.9.

The effects of pharmacological agents in regard to learning and memory processes are reviewed. An attempt is made to determine what particular components of learning and memory are facilitated or disrupted by drug action -- response capability, sensory input, response capacity, behavior storage, retrieval, motivation, etc. Discussion covers: the effects of drugs on macromolecular substrates, ribonucleic acid, amphetamines, strychnine, pentylene tetrazol, picrotoxin, nicotine, caffeine, uric acid, malononitrile derivatives, magnesium pemoline, cholinergic mechanisms, catecholamines, indole amines and molecular interactions, electrolyte effects, barbiturates, sedatives, and mood stabilizers. Present indications are evaluated and directions for new research suggested. 315 references.

108521 Ludwig, B.J.; Potterfield, J.R. Wallace Laboratories, Division of Carter-Wallace, Inc., Cranbury, New Jersey The pharmacology of propanediol carbamates. In: Garattini, S., *Advances in pharmacology and chemotherapy*. New York, Academic Press, 1971. 357 p.(p.173-240), Vol.9.

A review of the literature is presented on the pharmacology of propanediol carbamates. A discussion of chemical structure and biological activity covers propanediols and propanediol esters, propanediol carbamates, isomers of meprobamate, sulfur analogs, hypotensive propanediol dicarbamates and N-substituted propanediol carbamates. The metabolism of propanediol dicarbamates is considered in regard to absorption and distribution, biotransformation, enzymatic inactivation and drug interaction. The pharmacology of meprobamate, mebutamate, carisoprodol is examined along with a comparison of their activities. 310 references.

**108523 Guth, Paul S.; Bobbin, Richard P.** Department of Pharmacology, Tulane University, New Orleans, Louisiana The pharmacology of peripheral auditory processes; cochlear pharmacology. In: *Garattini, S., Advances in pharmacology and chemotherapy*. New York, Academic Press, 1971. 357 p.(p.93-130), Vol.9.

The literature on the pharmacology of peripheral auditory processes is reviewed and methods of cochlear pharmacology are described. The blood supply and autonomic innervation of the cochlea and the autonomic agents producing effects within the cochlea are considered, along with a discussion of the olivocochlear bundle and ototoxic agents. A glossary of cochlear potentials is included. 190 references.

**109014 Le Fevre, Catherine G.** 6 Aubrey Road, Northbridge, New South Wales, 2063, Australia Some less familiar drugs of abuse. *Medical Journal of Australia (Sydney)*. 2(25):1309, 1971.

Less familiar drugs of abuse used by young people in Queensland, Australia, are discussed. Attention is drawn to the use of Bufotenine, N',N'-dimethyl 5-hydroxytryptamine, as a drug of abuse to induce hallucinations and trips. This position isomer of psilocybin has powerful central action and has been isolated from toad skins. Bromism in connection with misuse of Romilar (dextro-methorphan hydrobromide) is discussed. Ritalin (methylphenidate), prescribed to opium addicts in drug abuse programs, has been used intravenously. This drug (known as 'West Coast'), according to users, is more addicting and more dangerous when abused in this manner than any narcotic. 2 references.

**109042 Kleinberg, David L.; Noel, Gordon L.; Frantz, Andrew G.** Columbia University College of

Physicians and Surgeons, New York 10032 Chlorpromazine stimulation and L-dopa suppression of plasma prolactin in man. *Journal of Clinical Endocrinology and Metabolism*. 33(5):873-876, 1971.

Plasma prolactin was elevated acutely following a single intramuscular injection of chlorpromazine in all of 12 endocrinologically normal subjects and in 1 patient with isolated growth hormone deficiency. The peak response occurred 1 to 2 hours following chlorpromazine injection. Two patients with panhypopituitarism showed no response. Pretreatment with L-dopa in normal subjects markedly inhibited the prolactin rise after chlorpromazine. In 4 patients with chronically elevated plasma prolactin, a single oral dose of L-dopa produced rapid lowering of the prolactin levels. These methods are useful tests of pituitary function. 8 references. (Author abstract)

**109145 Browning, Ronald Anthony.** University of Illinois at the Medical Center Relationship between brain monoamines and seizure susceptibility. (Ph.D.dissertation). *Dissertation Abstracts International*. Ann Arbor, Mich., Univ.M-films, No.71-30167 HC\$10.00 MF\$4.00 207 p.

The relationship between drug induced changes in brain monoamines and seizure susceptibility was examined, focusing on more direct ways of altering the concentrations of monoamines at nerve endings in the brain. Susceptibility to seizures was quantified in male rats subjected to minimal electroshock, maximal electroshock, and fluroethyl convulsions. The drugs utilized were norepinephrine, dopamine and serotonin, and areas of experimentation included: (1) the effect of seizures experienced early in life on the development of a normal resistance to convulsions; (2) the influence of chronically reduced concentrations of brain amines on seizure susceptibility; (3) bilateral electrolytic destruction of the substantia nigra; (4) transection of the medial forebrain bundle; and (5) effect of unilateral lesions in the substantia nigra and the ipsilateral medial forebrain bundle on electroshock seizure threshold. The findings of 6-hydroxydopamine induced brain damage in rats provide the strongest evidence now available that catecholamines are involved in the control of seizures. In addition, the responsibility of monoamines for the action of a variety of drugs on seizures is now doubtful, for the observations were made without recognition of the importance of alterations in body temperature. (Journal abstract modified)

110144 Afanas'ev, Iu.I. Moskovskii nauchno-issledovatel'skii institut psikhiatrlii MZ RSFSR, Moscow, USSR /Cessation of status epilepticus with unithiol./ Kupirovanie epilepticheskogo statusa unithiolom. In: *Semenov, S., Voprosy klin. i terapli psikh.zabolevanii*. Moscow, Ministerstvo Zdravookhraneniia SSR, 1971. 276 p.(p.136-141).

The disturbance of regular reception of anticonvulsants provoked the development of status epilepticus in a patient suffering from symptomatic epilepsy with expressed personality changes and polymorphic paroxysms with convulsive attacks which tended to occur in a series. Ten minutes after the first injection of unithiol, the attacks ceased. Following the second injection of the preparation in the same dosage, abortive attacks ceased. Two hours after the first injection, he withdrew completely from status epilepticus. Followup study of the patient within the next 2.5 years revealed an absence of attacks and an alleviation of dysphoric manifestations. The positive effect obtained with unithiol may be due to its active effect on metabolic brain processes and primarily to its effect of increasing the activity of the ergotropic system and subsequently normalizing the dynamic balance of other systems.

111343 Clark, Donald L.; Hosick, Elizabeth C.; Rosner, Burton S. Dept. of Anesthesia, School of Medicine, University of Pennsylvania, Philadelphia, Pa. 19104 Neurophysiological effects of different anesthetics in unconscious man. *Journal of Applied Physiology*. 31(6):884-891, 1971.

Healthy young volunteers were anesthetized with 80% nitrous oxide-d-tubocurarine, 2% or 4% diethyl ether, or Ethrane 0.8 to 3.0%. Arterial carbon dioxide tension was maintained at normal levels during nitrous oxide and ether and was varied between 20 and 40 torr during Ethrane. Only early specific activity remained in the average extracranial somatosensory evoked response (SER) during 80% nitrous oxide and 2% ether. Ether at 4% obliterated the entire SER. Increasing concentrations of diethyl ether progressively slowed the electroencephalogram (EEG) and increased its amplitude. Increasing concentrations of Ethrane produced a SER with large increases in amplitude and latency; the EEG first increased in frequency and then showed 'spike dome' complexes alternating with isoelectric periods. Lowering carbon dioxide tension produced changes in the EEG and SER during Ethrane anesthesia indicative of deeper anesthesia. Anesthetics of different chemical structure

produced diverse effects on the neuraxis. They also interact differently with carbon dioxide. These different phenomena suggest different modes of action related to drug structure. 30 references. (Author abstract)

111344 Hosick, Elizabeth C.; Clark, Donald L.; Adam, Niley; Rosner, Burton S. Department of Anesthesiology, University of Iowa School of Medicine, Iowa City, Iowa 52240 Neurophysiological effects of different anesthetics in conscious man. *Journal of Applied Physiology*. 31(6):892-898, 1971.

Neurophysiological and psychological effects of subanesthetic concentrations of cyclopropane, diethyl ether, methoxyflurane, and Ethrane were studied in healthy human volunteers. Cerebral somatosensory potentials were evoked by ulnar nerve stimulation. All drugs studied preferentially suppressed long latency components. Cyclopropane usually reduced direct lemniscal activity, while diethyl ether and the halogenated ethers had little effect. Methoxyflurane and Ethrane produced bursts of 14 to 20 Hz activity in the EEG. Diethyl ether had a similar but less marked effect. Cyclopropane was unique in producing 4 to 7 Hz activity. Only the halogenated ethers elevated sensory thresholds. All drugs impaired ability to concentrate and affected time perception. Ether alone produced amnesia. Chemically different anesthetics thus produce differential neurophysiological and psychological effects. 30 references. (Author abstract)

111589 Kumashiro, Hisashi; Sato, Mitsumoto; Hirata, Junichiro; Baba, Osamu; Otsuki, Saburo. Dept. of Neuro-Psychiatry, Fukushima Medical College, Fukushima, Japan 'Sleep apnoea' and sleep regulating mechanism: a case effectively treated with monochlorimipramine. *Folia Psychiatrica et Neurologica Japonica (Tokyo)*. 25(1):41-49, 1971.

A case report of a 69 year old male with apnoea tonic convulsion in sleep is presented. Methylphenidate and imipramine or monochlorimipramine proved to be effective, and the last drug was completely suppressed the sleep apnoea. For 15 months after discharge the continuous use of this drug has effectively inhibited the seizures. EEG of the case shows abnormal sleep pattern which has no deep sleep pattern. By recording EEG at the onset of this seizure there was recognized flat EEG suggesting that the tonic convulsion occurring after apnoea is an anoxic

convulsion. On the basis of the findings that sleep apnoea is closely associated with a certain depth of sleep, which resembles sleep paralysis of narcolepsy, it has been concluded that the action mechanism of imipramine and monochlorimipramine is directed to the disturbance of sleep regulating mechanism. 20 references. (Author abstract modified)

**111598 Calne, D.B.** Department of Medicine, Royal Postgraduate Medical School, Hammersmith Hospital, London W.12, England Parkinsonism -- physiology and pharmacology. *British Medical Journal (London)*. 3(5776):693-697, 1971.

A review of parkinsonism, its physiology and pharmacology is presented. The physiology of the basal ganglia; pathophysiology: tremor, rigidity, hypokinesia, and other disturbances; and the roles of dopamine, acetylcholine, decarboxylase inhibitors, pyridoxine, and amantadine in the treatment of the disease are discussed. 176 references.

**111618 Vesell, E.S.; Ng, L.; Passananti, G.T.; Chase, T.N.** Dept. of Pharmacology, Pennsylvania State University, College of Medicine, Hershey, Pa. 17033 Inhibition of drug metabolism by levodopa in combination with a dopa-decarboxylase inhibitor. *Lancet (London)*. 2(7720):370, 1971.

A new effect of levodopa administration observed when the drug was given with a dopa-decarboxylase inhibitor, L-alpha-methyldopa hydrazine (MK 486), is reported. Antipyrine half-lives in human plasma were studied to detect changes in rate of drug metabolism. A change in the plasma antipyrine half-life after chronic administration of a second drug may be interpreted as an indication of the effect exerted by the second drug on certain drug metabolizing enzymes. For normal volunteers, receiving only levodopa, no change in antipyrine half-life occurred; prolongation of half-life in another group receiving L-alpha-methyldopa hydrazine was not statistically significant; prolongation in subjects receiving both was 33%. This prolongation probably occurred through inhibition of drug metabolism by high concentrations of either levodopa or its metabolite, o-methyldopa, or both. Levodopa in combination with L-alpha-methyldopa hydrazine can now be added to the growing list of inhibitors of drug metabolism.

**112064 Von Voigtlander, Philip F.; Moore, Kenneth E.** Department of Pharmacology, Michigan

State University, East Lansing, Michigan 48823 Dopamine: release from the brain in vivo by amantadine. *Science*. 174(4007):408-410, 1971.

After dopamine stores in the caudate nucleus of cats were labeled with (3H)dopamine, the ventricular system was perfused with artificial cerebrospinal fluid. The addition of amantadine to the perfusing fluid caused a dose related increase in the concentrations of (3H)dopamine appearing in the perfusion effluent. Subthreshold concentrations of amantadine also enhanced the efflux of (3H)dopamine induced by electrical stimulation of the caudate nucleus. These actions may be responsible for the ability of this drug to relieve some of the symptoms of Parkinson's disease. 19 references. (Author abstract modified)

**112297 Sjogvist, Folke; Alexanderson, Balzar; Asberg, Marie; Bertilsson, Lelf; Borga, Olof; Hamberger, Bertil; Tuck, Dick.** Karolinska Institutet, Stockholm, Sweden Pharmacokinetics and biological effects of nortriptyline in man. *Acta Pharmacologica et Toxicologica (Kobenhavn)*. 29(Supplement 3):255-280, 1971.

Factors controlling apparent steady state plasma levels of nortriptyline (NT) were investigated in humans, with special regard to drug interactions and to genetic control. The biotransformation of nortriptyline and experimental and clinical studies of the effects of NT in relation to steady state plasma levels were also studied. The steady plasma level of a drug is probably a more important determinant for its effect than dosage, since it reflects the amount of drug available for biological action. There is a great need for studies concerning human pharmacokinetics of psychoactive drugs since clinical titration of their dosage is hampered by the lack of reliable parameters for quantitative evaluation of the effects in an individual patient. Studies of the relationship between kinetics and pharmacologic effects of thymoleptic or neuroleptic drugs are required for a scientifically sound drug therapy. It appears much more important to learn about interindividual variations in the kinetics of such drugs than to introduce new compounds. 32 references.

**113919 Hurst, Paul M.; Bagley, Sallyann K.** Div. of Psychobiology, Institute for Research, State College, Pa. Effects of alcohol and methylphenidate on complex judgments. Springfield, Va., NTIS, AD-727623, 1971, 22 p. PC:\$3.00 MF:95 cents.

Methylphenidate HCl in 2 dosages, 12mg/70 kg and 20mg/70kg, ethyl alcohol in a dose of 60g/70 kg and a placebo were given to 50 college student volunteers. Each S received each treatment once during 4 sessions, with treatment order being counterbalanced. The Ss, who were all experienced bridge players, were given sets of bidding problems that varied as to storage load, ambiguity level, and answer format (open ended vs multiple choice). Their performances were scored according to (1) frequency of active bids vs passes and (2) a figure of merit preassigned to each possible response, as derived from expert consensus. They also wrote impromptu editorials on assigned topics, from which word count measures of verbal production were derived, and gave periodic self-ratings on mood adjective check lists. (Author abstract)

115395 Edler, K.; Gottfries, C.G.; Haslund, J.; Ravn, J. S-271 00 Ystad, Sweden Eye changes in connection with neuroleptic treatment especially concerning phenothiazines and thioxanthenes. *Acta Psychiatrica Scandinavica (Kobenhavn)*. 47(4):377-385, 1971.

Eye changes in 183 control patients and 300 psychotic patients treated with neuroleptics were investigated. In both types opacity in the anterior part of the lens was recorded in 2-3% of the subjects more than 40 years of age. Eye changes of a specific type related to treatment were recorded in 69 patients in the clinical type. In all cases opacity in the anterior part of the lens was present; 71% of these lens opacities were golden brown. There were also corneal changes in the form of point sized granulae in 23 (33%) of the patients with lens changes. No such changes were seen in the control material. A significant relation was present between lens/corneal changes and chlorpromazine treatment. The relation was strongest in groups that had had high dosages of chlorpromazine, with a frequency up to 57%. No other statistical relation could be established between lens/corneal and other clinical variables that were under control, among which were other neuroleptics especially thioxanthenes. An increased deposit of pigment granulae on the anterior surface of the iris and an increase in the number of nevi in the iris were recorded in the clinical and the control types in 63% and 11%, respectively. The iris changes could be clearly related to age; older subjects had increased pigment deposits on the iris. 16 references. (Author abstract modified)

115396 Dom, R.; Van Lommel, R.; Baro, F. Psychiatrisch Instituut, St.Kamillus, B-3043 Bierbeek, Belgium A quantitative study of neuroleptic-induced extrapyramidal symptoms and their response to dextimide, a potent and long-acting antiparkinsonian agent. *Acta Psychiatrica Scandinavica (Kobenhavn)*. 47(4):399-410, 1971.

Neuroleptic induced extrapyramidal side-effects and their response to dextimide were studied in three double-blind studies on 20 chronic psychotic patients. In the first study, the patients were treated, in a randomized crossover fashion with dextimide or placebo. Haloperidol was administered in stepwise fashion and discontinued when critical extrapyramidal effects were apparent. The prophylactic value of dextimide against increasing amounts of haloperidol was significant. A single daily dose of dextimide controlled the extrapyramidal effects induced by a mean overdose of haloperidol. In the second study, each patient was treated for seven days with a dose of haloperidol which produced critical extrapyramidal reactions. On the third day of haloperidol treatment, the patients were treated with a single injection of either dextimide or placebo; 24 hours later the alternative preparation was administered. The neurological rating scale showed a highly significant reduction in extrapyramidal effects. The third study comprised three treatment periods during which the same 20 patients were again treated for seven days with their individual critical dose of haloperidol. On the third day of haloperidol, they received an injection of either dextimide, benztropine, or ethybenztropine, the alternative medications being administered in the two successive periods. The neurological rating scale indicated that dextimide was significantly longer acting than benztropine or ethybenztropine. The prolonged action of dextimide was found to be of primary importance in connection with the use of the long acting neuroleptics fluspirilene and penfluridol. Tonometric examinations during treatment with dextimide without added haloperidol failed to show increases in intraocular pressure. 14 references. (Author abstract modified)

115619 DiMascio, Alberto; Shader, Richard I. Commonwealth of Massachusetts, 591 Morton Street, Boston, MA 02124 Drug administration schedules. In: *Masserman, J., Current psychiatric therapies*. New York, Grune & Stratton, 1971. 224 p.(p.94-99).

The common current practice of daily administering psychotropic drugs in from three to six equally divided doses is seen as having no scientific foundation. It is noted that various pharmacologic facts, as well as the clinical effects and efficacy of various schedules of drug administration, demonstrate that a revision of present methods of drug administration will result in significant pragmatic benefit without loss of therapeutic benefit. Caution is urged in view of the age and physical status of the patient, but it is suggested that the use of a daily or twice daily dosage schedule for drug administration can produce beneficial results for the patient, for the nursing and medical staff, and financially. 21 references.

**115899** Ramadja, F.; Djunaedi, W.; Gunawan, B.; Oemijono, M.; Chandra, B. Dept. of Neurology and Psychiatry, Airlangga University School of Medicine, Surabaya, Indonesia Long-term seizure after status epilepticus with Diazepam. *Far East Medical Journal (Hong Kong)*. 7(3):73-76, 1971.

The use of Diazepam as a continuing therapy following complete suppression of the status epilepticus is evaluated. Diazepam was administered to 26 patients admitted to the hospital with status epilepticus. The same medication was continued after cessation of the prolonged attack. Diazepam appeared to be effective for status epilepticus irrespective of seizure type, its presumed cause, or its duration. Diazepam was inefficient in definitely stopping the prolonged seizures based on a severe brain disease. The patient sample was too small to draw definite conclusions; the results so far merit further study. 15 references. (Author abstract modified)

**116814** Elliott, H.W. University of California, Irvine College of Medicine, Orange County Medical Center, Orange, CA 92668 Pharmacology of narcotics and antagonists as related to drug abuse. *Intern. J. of Clinical Pharmacology, Therapy and Toxicology (Munchen)*. 4(4):459-461, 1971.

The pharmacology of narcotics and antagonists pertinent to the problem of narcotic addiction is discussed. Interrelationships among narcotics and antagonists due to stereo chemistry are pointed out and the special actions of morphine surrogates affecting abuse potential or use are discussed. Generic and trade names of drugs are included. 4 references. (Author abstract modified)

**120417** Cuthbert, M. F.; Vere, D. W. Dept. of Pharmacology and Therapeutics, London Hospital Medical College, Turner St., London E1, England Potentiation of the cardiovascular effects of some catecholamines by a monoamine oxidase inhibitor. *British Journal Of Pharmacology (London)*. 43(2):471P-472P, 1971.

The potentiation of the pressor effect of noradrenaline (NA) and other catecholamines by treatment with monamine oxidase inhibitors (MAOI) in 3 male subjects was studied. The pressor effect of intravenous phenylpropanolamine was potentiated approximately 4-5 times (systolic blood pressure) and 3-10 times (diastolic blood pressure) while the reflex bradycardia was potentiated approximately 2.5-6 times. In contrast, the pressor effect of NA was only slightly potentiated although the reflex bradycardia was more marked. There was a moderate potentiation of the effect of adrenaline on the heart rate and diastolic pressure and a less marked potentiation of the rise in systolic pressure. Similar results were obtained with isoprenaline but the rise in systolic pressure was not potentiated. The changes in blood pressure induced by intravenous catecholamines in subjects taking tranlylcypromine appear to be unimportant. Since effects on beta-adrenoceptors are potentiated, however, an increased risk of cardiac dysrhythmia may exist, though none was seen in the healthy subjects. 6 references.

**120418** Barar, F. S. K.; Boakes, A. J.; Benedikter, L. B.; Laurence, D. R.; Prichard, B. N. C.; Teoh, P. C. Clinical Pharmacology Section, Medical Unit, Univ. College Hospital Medical School, London WC1, England Interactions between catecholamines and tricyclic and monoamine oxidase inhibitor antidepressive agents in man. *British Journal of Pharmacology (London)*. 43(2):472P-473P, 1971.

Four healthy adult volunteers received infusions of adrenaline, noradrenaline, phenylephrine and isoprenaline before and after a tricyclic antidepressive agent (imipramine). Two of them also received infusions before and after an hydrazine monoamine oxidase inhibitor (phenelzine). Infusions in subjects taking the tricyclic antidepressive agent (imipramine) revealed potentiation of the pressor effects of noradrenaline (4-8 times), adrenaline (up to 2 times) and phenylephrine (up to 3 times). Infusions in subjects taking the monamine oxidase inhibitor (phenelzine), revealed potentiation of the pressor action of phenylephrine (2 times), but no potentiation of the

pressor effect of noradrenaline or adrenaline. There was no potentiation of the tachycardia produced by isoprenaline. 5 references.

**120470 Trosko, James E.** Department of Human Development, Michigan State University, East Lansing, MI 48823 Studies on deoxyribonucleic acid metabolism in human cells treated with lysergic acid diethylamide. *Biochemical Pharmacology (Oxford)*. 20(11):3213-3218, 1971.

An investigation was undertaken to see if the previously reported complex of lysergic acid diethylamide (LSD) with DNA might interfere with normal DNA metabolism in human cells grown in vitro. At concentrations of LSD that were used and at the ultraviolet dose that was delivered to the cells, no detectable difference was found in the formation of ultraviolet induced pyrimidine dimers in DNA. Excision of such dimers was not affected in LSD treated cells. There was no detectable shift in the molecular weight of LSD treated cells. LSD, given to cells synthesizing DNA, did not appear to interfere with the synthesis of normal sized DNA. Using these techniques for measuring DNA metabolism, it is impossible to determine whether LSD has no effect or little effect, or whether the techniques were not sensitive enough to pick up any effect. 46 references.

**120828 Schwartz, Morton A.; Postma, Edward; Gaut, Zane.** Department of Clinical Pharmacology, Hoffmann-La Roche Inc., Nutley, N. J. 07110 Biological half-life of chlordiazepoxide and its metabolite, demoxepam, in man. *Journal of Pharmaceutical Sciences*. 60(10):1500-1503, 1971.

In a crossover study, single 20mg oral doses of chlordiazepoxide and one of its metabolites, demoxepam, were administered to six subjects. After chlordiazepoxide administration, the maximum plasma levels of intact drug were approximately 1 microgram/ml and the half-life of plasma chlordiazepoxide ranged from 6.6 to 28 hr. In addition, a second metabolite, desmethylchlordiazepoxide, was found to reach maximum plasma levels of 0.14-0.46 microgram/ml. Demoxepam was not detected in the plasma of any subject after the single dose of chlordiazepoxide. The absorption of chlordiazepoxide was estimated to be 81% in the one subject given both an oral and an intravenous dose of the drug. This suggests that therapeutic doses of chlordiazepoxide are well absorbed in man. The eventual elimination of

demoxepam from the plasma was relatively slow, with a range in half-life of 14-95 hr. In each subject, the half-life of demoxepam was markedly longer than that of chlordiazepoxide. It is concluded that chlordiazepoxide in man is eliminated by biotransformation. 10 references. (Author abstract modified)

**120830 Hirst, Christine A.; Kaye, R. C.** Department of Pharmacy, Heriot-Watt University, Edinburgh, U.K. On the effect of pharmaceutical formulation on thioridazine absorption. *Journal of Pharmacy and Pharmacology (London)*. 23(Supplement):2465-2475, 1971.

To obtain information on the absorption of thioridazine oral preparations in man, a single dose, three way crossover study was carried out with six male adults. The preparations used were the syrup, suspension (1), and suspension (2) which contained 2.25% micronized thioridazine base and pharmaceutical formulating agents. The three preparations were given in a latin square order, with three weeks between successive administrations for elimination of thioridazine. Blood samples were taken at appropriate time intervals. Differences in thioridazine blood concentrations between subjects after the same preparation were greater than differences in a single subject after the three preparations. A modified t-test was used to compare the differences in individuals after the three preparations. There was no significant difference between the blood concentrations after suspension (1) and suspension (2), but both of these were consistently higher than those after the syrup. Adjuvants added to suspension (2) had not reduced absorption. Thioridazine is a base and would be expected to be well absorbed from the intestine and poorly absorbed from the stomach. The free base in suspension (1) and (2) will dissolve in the stomach. If solution is rapid and neither syrup nor suspension formulation affects absorption, the drug should be equally well absorbed from syrup and suspension. The superior absorption found for the suspensions could be due either to an ingredient included in both suspensions (but not the syrup) that increased thioridazine absorption, or to an ingredient in the syrup that reduced thioridazine absorption. 4 references. (Author abstract)

**121796 Rohmer, F.; Isch, F.; Isch-Treussard, C.; North, P.** Clinique Neurologique, Hopital Civil, I,

place de l'Hopital, F. 67-Strasbourg, France /Electroclinical study of a case of 'neuromyotonia' with myokymia, reacting favorably to carbamazepine treatment./ Etude electro-clinique d'un cas de 'neuro-myotonie' avec myokymies, reagissant favorablement a la carbamazepine. *Revue Neurologique (Paris)*. 125(3):239-246, 1971.

A syndrome characterized by persistent muscular activity with involuntary and permanent muscular tension, myotonic type relaxation and frequent myokymia is described. A decrease in osteotendon reflexes has also been noted by other workers. The electromyographic features clinically distinguish this particular syndrome of muscular rigidity as one originating from peripheral nerves, rather than from CNS or muscles, with an uncertain etiology, and improving dramatically when treated with certain hydantoin, especially carbamazepine. The patient studied noted sudden onset of unilateral third and fourth finger stiffness progressing to the skeletal arm muscles. Stiffness decreased with muscle exercise. Along with distal skeletal muscle contractures, the patient had profuse sweating attacks and spontaneous twitchings of the more proximal muscle groups (deltoid and quadriceps). Medical, neurologic and psychiatric findings of the patient and family were normal, although the patient did mention difficulties in running for the past two years and occasional writer's cramp. EMG tracings of fasciculating and contracted muscles revealed wide variability in action potential amplitude and duration, and slow relaxation times; however, contrary to other authors' observations, normal peripheral nerve conduction times were found. Curarization, intravenous injection of succinylcholine, diphenylhydantoin and carbamazepine administration are effective in reducing both muscular stiffness and EMG activity. Within a few days of carbamazepine therapy (2 to 3 daily 200mg doses), all symptoms disappeared. Unfortunately, followup and neuropharmacological studies could not be conducted with this patient. The origin of pathology rests in the peripheral nerves, as shown by the ineffectual therapeutic results of sleep, complete anesthesia, spinal cord blocks, procaine blocks of nerve trunks and terminal branches, and diazepam administration. Although the etiology of this syndrome is unknown, some workers have suggested that toxic chemicals may be implicated. 11 references.

122552 Grove, J.; Toseland, P.A. Poisons Unit, Guy's Hospital, London, SE 1, England The excretion of hydroxyamylobarbitone in man after oral administration of amylobarbitone and hydroxyamylobarbitone. *Journal of Pharmacy and Pharmacology (London)*. 23(12):936-940, 1971.

The excretion of hydroxyamylobarbitone in man was measured over six days after an oral dose of 200mg of sodium amylobarbitone. The biological half-life of hydroxyamylobarbitone determined from Sigma - minus plots ranged between 16.8 and 22 h in seven subjects, in another subject the half-life was 34.4h. The effects of increasing urine flow on the amount of hydroxyamylobarbitone excreted after ingestion of 200mg of sodium amylobarbitone were assessed. A subject normally excreting 34% of the dose as hydroxyamylobarbitone excreted 45% of the dose as metabolite while taking chlorothiazide as a diuretic. With the same subject taking increased fluids to produce a greater urine flow 41% of the dose was excreted as hydroxyamylobarbitone. Hydroxyamylobarbitone is not bound to plasma proteins and when an aqueous solution of 50mg of hydroxyamylobarbitone was taken by mouth, 57% of the dose was eliminated in the first 8 h and 91% in the first 24 h. The half-life for ingested hydroxyamylobarbitone was 5.7h, showing that the rate of elimination of this metabolite is faster than its rate of formation when amylobarbitone is ingested. 8 references. (Author abstract)

122578 Asberg, Marie; Evans, David A. Price; Sjoqvist, Folke. Division of Clinical Pharmacology, Karolinska Institute, S-10401 Stockholm 60, Sweden Genetic control of nortriptyline kinetics in man -- a study of relatives of propositi with high plasma concentration. *Chemico-Biological Interactions (Amsterdam)*. 3(4):238-240, 1971.

Whether patients achieving very high steady state nortriptyline (NT) plasma concentrations do so because of their genetic constitution and whether the matter of inheritance is monogenic or polygenic was investigated. Twenty nine relatives of three patient propositi developing extremely high plasma concentrations of NT and 20 random subjects were given NT orally three times daily during eight days. The finding that neither the full siblings of high level propositi nor the offspring of these siblings fall into two modes makes a major genetic polymorphism in the kinetics of NT less likely. The apparent bimodality in the distribution

of patient plasma concentrations may be explained by the extreme skewness of the distribution, and by the fact that the subjects were psychiatric patients, who had received various other psychotropic drugs prior to the study. The manner of inheritance of NT kinetics is likely to be polygenic. 3 references.

122579 Alexanderson, Balzar; Bertilsson, Leif; Borga, Olof; Sjoqvist, Folke. Department of Pharmacology, Division of Clinical Pharmacology, Karolinska Institute, Stockholm, Sweden Studies on the metabolism and pharmacokinetics of nortriptyline and desmethylinipramine in man. *Chemico-Biological Interactions* (Amsterdam). 3(4):235-236, 1971.

The overall elimination rate constant of nortriptyline (NT) in plasma following a single oral dose to six healthy volunteers was determined from the beta-slope and the apparent volume of distribution of NT (Vd) for each individual. The steady state plasma level was determined for each subject after treatment with NT three times daily for 14 days. There was a significant correlation between the observed steady state plasma levels of NT and the inverse ratio of each individual's metabolic clearance rate. The steady state plasma level of NT is determined mainly by  $k_{el}$  but partly depends on Vd. There was no correlation between the two parameters. The hydroxylation of NT in man might be the rate limiting step and genetic variation in the metabolism of NT depends on the capacity of the hydroxylating enzymes in each individual. 7 references.

123047 Ohishi, Katsuyuki; Iwai, Seizo. Kobe University Medical School, Kobe, Japan Effects of oxazolam as a medication before anesthesia. In: *Serenal sogo bunken-shu*. Tokyo, Sankyo Co., 1971. 377 p. (p.369-371).

The effect of oxazolam administered before anesthesia was studied. Oxazolam, in doses of 0.4mg, 0.5mg, 0.6mg, 1.0 or 2mg/kg was administered to 25 patients 1.5-3 hrs prior to surgery. No significant change in the pulse rate, blood pressure, respiratory rate was observed in patients who were treated with 0.4-1mg/kg of oxazolam. Of the patients who were treated with more than 0.5mg/kg of oxazolam, 50% showed minor cases of sleepiness 30 minutes after oxazolam administration which lasted for 15-60 minutes. A few patients who were treated with less than 0.6mg/kg of oxazolam showed excitation

and increase of secretions. Half of the patients who were treated with 1mg/kg of oxazolam complained of tiredness. Among those patients who were treated with 2mg/kg of oxazolam, nine patients showed a greater than 10% increase of blood pressure, four patients a greater than 10% decrease of blood pressure, 12 patients a greater than 10% increase of pulse rate, and three patients a greater than 10% decrease of pulse rate indicating that administration of 2mg/kg of oxazolam is not advisable as a medication before anesthesia.

123292 Anggard, E.; Jonsson, L.E.; Gunne, L.M. Department of Pharmacology, Karolinska Institute, S 104 01 Stockholm, Sweden Pharmacological blockade of amphetamine effects in subjects dependent on central stimulants. *Acta Pharmacologica et Toxicologica* (Kobenhavn). 29(Supplement 4):2, 1971.

At a joint meeting of the German and the Scandinavian Pharmacological Societies, the pharmacological blockade of amphetamine effects in subjects dependent on central stimulants was reported. Euphoric effects were recorded by a self-rating procedure after injection of 200mg d, el-amphetamine sulphate in subjects dependent on central stimulants. Pretreatment with alpha-methyl-p-tyrosine (alpha-MT) 0.5g and 1.0g decreased the magnitude of the self-rated euphoric response by 50% and 75% respectively. After one week's treatment with alpha-MT 1.0g tolerance developed to the amphetamine blocking effect of alpha-MT. Following discontinuation of alpha-MT an enhanced response to amphetamine was observed. The plasma levels associated with a 50% blockade was about 3 micrograms/ml of alpha-MT. Treatment with a single 4g dose of alpha-MT gave a 70% blockade lasting for 24-36 hours. Of several neuroleptic drugs pimozide (20mg) and chlorpromazine (50mg) gave a 50% and 40% reduction respectively of the amphetamine response. The results show that the euphoric effect caused by intravenous amphetamine is dependent on the presence of a small alpha-MT sensitive catecholamine pool in the brain. It may be possible to use alpha-MT in suitably spaced intervals for the treatment of subjects dependent on the drug. (Author abstract)

123464 Klawans, H.L., Jr. Department of Neurology, Rush Presbyterian St. Lukes Medical Center, 1753 W. Congress Pkwy., Chicago, IL

60612 Observation on the range of efficacy of L-Dopa. *Confinia Neurologica - Borderlands of Neurology (Basel)*. 33(3):133-145, 1971.

The effectiveness of L-dopa in chronic manganese poisoning, progressive supranuclear palsy, olivopontocerebellar degeneration, and parkinsonism complicated by such features as pyramidal tract lesions and dementia is reviewed. Only the classic manifestations of parkinsonism and the dystonic movements of chronic manganese intoxication improve consistently on L-dopa. This is consistent with the hypothesis that L-dopa acts on dopaminergic receptors perhaps as dopamine. This suggests that the range of efficacy of this drug will be limited to diseases with dysfunction of neurons which normally respond to dopamine. 52 references. (Author abstract)

125289 Martin-DuPan, R.; Ackermann, W. 22 Rue de Candolle, CH-1205 Geneva, Switzerland /Double-blind study of the orexigenic effect of a serotonin inhibitor in anorexic children./ Etude en double aveugle de l'effet orexigène d'un antagoniste de la sérotonine chez l'enfant anorexique. *Therapeutische Umschau (Bern)*. 28(6):415-424, 1971.

Thirty two children aged four to 15 were given the serotonin inhibitor BC-105. Weight gain was increased two to 26 times in comparison to previous results. In a comparative double-blind study of 70 anorexic children aged nine months to 15 years, a placebo syrup stimulated the appetite in 78% of the cases. Weight gain was statistically significant in both groups. Average weight increase with BC-105 was significantly greater. BC-105 seems to act as a stimulant of the appetite center just as a placebo acts with patients sensitive to placebo. No marked effect of BC-105 was noted in infants on a simultaneous diet of low caloric value. Infants allowed to eat to satiation gained in weight and in food consumption when given BC-105. Nitrogen, phosphorus, potassium and sodium levels of four infants before and after treatment with BC-105 did not show improvement in anabolism or presence of water retention. 31 references. (Author abstract modified)

125569 Heninger, G.R.; Demers, R. no address Lithium effects on the EEG and somatosensory evoked response in relation to sodium metabolism. *Electroencephalography and Clinical Neurophysiology (Amsterdam)*. 31(3):289-290, 1971.

At a meeting of the American Electroencephalographic Society, the lithium effects of the EEG somatosensory evoked responses studied in relation to sodium metabolism was reported. While on a controlled Na intake and while having daily measurements of urinary Na excretion, each of eight patients had numerous recording sessions before, during and after a period of lithium treatment. In addition, the ward behavior of six patients was rated quantitatively by nursing staff periodically throughout the study. Therapeutic amounts of lithium produced EEG and somatosensory evoked response (SER) changes even when patients were on a constant high Na intake. When patients were on a low Na intake when starting lithium the EEG and SER changes were observed sooner and at a lower dose and serum concentration of lithium. The data support the hypothesis that alterations in Na metabolism are involved in the EEG and SER changes that occur at the time behavioral change takes place during lithium treatment. (Journal abstract modified)

125593 Bradley, P.B.; Briggs, I.; Dray, A. Dept. of Pharmacology, Medical School, Birmingham B15 2TJ, England Mechanism of action of psychotomimetic drugs in the brain stem. *Experientia (Basel)*. 27(9):1109, 1971.

At the Satellite Symposium of the twenty fifth International Congress of Physiological Sciences, the mechanism of action of psychotomimetic drugs in the human brain stem was discussed. Since several methylated tryptamine derivatives, which are present in relatively large amounts in the blood of schizophrenics are known to possess psychotomimetic activity similar to that of LSD 25, the actions of several tryptamine derivatives, and their interactions with 5-hydroxytryptamine (5-HT) and other putative transmitters have been studied using the iontophoretic technique. The effects of these substances are complex: on some neurons their effects are similar to those of 5-HT but with different time courses; on others the effects of 5-HT were specifically antagonized. 7 references. (Author abstract modified)

125630 Daniels, J.C.; Spehlmann, R. no address Atropine spikes. *Electroencephalography and Clinical Neurophysiology (Amsterdam)*. 31(3):296, 1971.

At a meeting of the American Electroencephalographic Society, the nature of the convulsant effect of topically applied atropine was

clarified using 26 cats prepared as encephale isole. The findings suggest that the convulsant property of atropine is independent of the hitherto established actions of the drug, namely as a muscarinic antagonist or as a local anesthetic. Atropine resembles curare, as both are convulsants when applied topically an effect unrelated to their cholinolytic properties. The convulsant action of atropine is considered in the evaluation of neurophysiological and neuropharmacological investigations of cholinergic mechanisms.

125867 Metze, H. Universitäts-Kinderklinik, 87 Würzburg, Jos. -Schneider-Strasse 2, Germany /Treatment of hyperbilirubinemia in premature and newborn infants with phenobarbital and light therapy./ Zur Behandlung der Hyperbilirubinämie Früh- und Neugeborener mittels Phenobarbital sowie Lichttherapie. *Archiv für Kinderheilkunde (Stuttgart)*. 183(4):315-321, 1971.

The treatment of hyperbilirubinemia in premature and newborn infants with phenobarbital and light therapy is reported. Forty three full term infants were given 15mg/kg body weight phenobarbital per during the first three days of life. The maximal daily dose was 45mg. Bilirubin levels measured three to 10 days after birth showed a distinct decline when compared to untreated controls. Since phenobarbital affects the respiration center, the drug is not indicated in premature births. Phototherapeutic results were inconclusive. Exchange transfusion remains the treatment of choice when bilirubin exceeds permissible limits. 37 references.

#### 14 MECHANISM OF ACTION: BEHAVIORAL

069514 Cheifetz, David L.; Garron, David C.; Leavitt, Frank; Klawans, Harold L.; Garvin, John S. Rush Medical College, Chicago, Illinois Emotional disturbance accompanying the treatment of parkinsonism with L-dopa. *Clinical Pharmacology and Therapeutics*. 12(1):56-61, 1971.

A study, using systematic observation, interview, and psychological examination, in a sample of 34 patients receiving L-dopa for parkinsonism is reported. The results do not support the suggestion that disturbances of mood and behavior are to be expected. It is concluded that the chances of adverse emotional side reactions to L-dopa appear to be minimal when the dosage level does not exceed 4gm/day and the subjects are emotionally stable prior to treatment. 4 references. (Journal abstract modified)

073248 Mendels, J. Department of Psychiatry, University of Pennsylvania, Philadelphia, Pennsylvania Relationship between depression and mania. *Lancet*. 1(7694):342, 1971.

Two observations are discussed in a letter to the editor which aim at understanding the relationship between the depressed and manic phases of manic depressive illness. An investigation is described in which lithium was compared with desipramine in a double blind cross-over study, and the findings which suggest that lithium has an antidepressant effect. A second observation concerning a study of 5-hydroxy-indoleacetic acid is also described. 6 references.

077431 Ban, T. A.; Lehmann, H. E.; Sterlin, C.; Beaubien, J.; Jarrold, Louise. 6875 La Salle Boulevard, Verdun, Quebec, Canada Doxepin in the treatment of psychoneurotic patients: a comparison between two clinical settings. *Internat. Zschr. für Klinische Pharmakologie, Therapie und Toxikologie*. 4(2):236-239, 1971.

In two separate controlled clinical studies, doxepin, a tricyclic dibenzoxepine derivative, was found to be similar in therapeutic effectiveness to chlorthalidoxepoxide, a steroid anxiolytic drug. By pooling the data from these two experimental populations, differences related to demographic contingencies became accessible for analysis. Furthermore, with the enlargement of sample size it became evident that both drugs have a definite therapeutic effect in the areas of anxiety, tension, somatic concern, guilt feelings and depressive mood. The only apparent difference in the range of therapeutic activity of the two drugs was in motor retardation which improved significantly with doxepin only. In an attempt to uncover the differences related to the biochemical, neurophysiological and pharmacological activities of the two drugs, the experimental population was reclassified into three categories: excitatory, inhibitory and mixed, based on Pavlovian principles. The reclassification suggested that patients of the excitatory and mixed types respond equally well to both the investigational and the standard drug. On the other hand, the inhibitory type is far more responsive to doxepin than to chlorthalidoxepoxide. 16 references. (author abstract)

077704 Thomas, Hugh B. G. Dyslexia Memorial Institute, Chicago, Illinois Hypnotics and hangers. *Lancet (London)*. No. 7750:914, 1971.

In a letter to the editor, the author reports on the use of small doses of certain antidepressants

as occasional hypotics. Patients with intermittent but severe insomnia get an excellent night's sleep if they take imipramine 25mg about 1 hr before going to bed. The same dose of amitriptyline leaves some people feeling rather 'muzzy'. It may only be necessary to follow this regimen for a few nights in order to re-establish a rhythm which then lasts for weeks. Risks regarding dependency are termed slight.

**078163 O'Donnell, Robert D.; Mikulka, Peter; Heinig, Patrick; Theodore, James.** Space Biology Laboratory, Medical Center, University of California, Los Angeles, California Low level carbon monoxide exposure and human psychomotor performance. *Toxicology and Applied Pharmacology*. 18(3):593-602, 1971.

The effects of 5 concentrations of carbon monoxide exposure on time estimation, tracking, and ataxia were studied in 10 humans. The tracking task required the subjects to keep a needle display dial from going off scale by manipulating a control stick. Levels of CO used were 0, 50, 125, 200, and 250 ppm, yielding mean carboxyhemoglobin levels from 0.96 to 12.37% in a 3 hr exposure. No significant symptoms were reported by the subjects, and no ability to detect the presence of CO was noted. No overall trend toward poorer estimates of a 10 sec interval occurred as a function of CO uptake, and tracking performance did not deteriorate over the course of the exposures to CO. There was a suggestion that subjects inhaling CO showed a different overall pattern of tracking performance over time than control subjects. It is concluded that the present data do not support the hypothesis that low level carbon monoxide exposure of humans results in performance decrement. Additional investigation is required to define the lower limit and extent of such exposure and to resolve conflicting views on this issue. 20 references. (author abstract)

**078951 Felger, Hubert L.** New Jersey State Hospital, Greystone Park, New Jersey Chlorprothixene-enforced sleep for newly admitted patients with acute mental decompensation. *Diseases of the Nervous System*. 32(1):46-51, 1971.

Experiences with chlorprothixene enforced sleep in newly admitted patients with acute mental decompensation are described. It has been found that immediate institution of sleep with intramuscularly administered chlorprothixene

(Taractan) is the quickest and most satisfactory means of easing the effects of the traumatic events preceding commitment and actual admission to a mental hospital experienced by many patients. Treatment was by spaced intramuscular injections over the first 5 days after admission. Observations were made during sleep of blood pressure, pulse and respiration -- all of which remained within normal limits during the treatment period. Frequent periods of rapid eye movement sleep were observed, and patients reported having dreamed when awakened during these periods. It is concluded that several days of chlorprothixene enforced sleep offers a practical treatment modality for rapidly controlling excitement, fright and aggressiveness in acute mental collapse. It spares the patient the uninhibited, bizarre behavior which he recalls with embarrassment once he regains control over his mental and intellectual faculties. It appears that the therapeutic regimen is economical as it reduces the number of nursing and other personnel usually necessary to handle acutely disturbed patients, and also appears to reduce the total period of hospitalization. 18 references. (Author abstract modified)

**079188 Fast, George J.; Fisher, Seymour.** Department of Psychiatry, State University of New York, Upstate Medical Center, 750 East Adams St., Syracuse, New York 13210 The role of body attitudes and acquiescence in epinephrine and placebo effects. *Psychosomatic Medicine*. 33(1):63-84, 1971.

The principal objective was to test hypotheses concerning the role of body attitudes in response to epinephrine and placebo. A particularly important hypothesis asserted that women would be less disturbed than men by the increased body awareness produced by epinephrine. A secondary intent was to ascertain whether an individual's degree of acquiescence will predict his relative degree of response to epinephrine as compared to placebo. The subjects were 15 normal men and 15 normal women. Boundary definiteness, general body awareness and other body image measures correlated significantly with several parameters of response to epinephrine and placebo. Hypotheses concerning sex differences were supported. There was also support for the principal hypothesis involving acquiescence. 20 references. (Author abstract)

079234 Kales, Joyce; Tan, Tjiauw-Ling; Swearingen, Charles; Kales, Anthony. U.C.L.A. Sleep Research and Treatment Facility, 760 Westwood Plaza, Los Angeles, California 90024 Are over-the-counter sleep medications effective? all-night EEG studies. *Current Therapeutic Research*. 13(3):143-151, 1971.

All night electroencephalographic studies are made to determine the effectiveness of sleep medications sold over the counter. In this study, a commonly used, nonprescription sleep medication, Sominex, was evaluated in the sleep laboratory, using subjects with moderate to severe insomnia who primarily had difficulty in falling asleep. Subjects were monitored with electroencephalogram, electromyogram, and electroculogram for 8 consecutive nights: 3 placebo nights, 3 drug nights, and 2 placebo nights. Results showed that Sominex in its recommended dose did not produce any favorable effects in terms of inducing sleep. The principal sleep alteration produced by the drug was a slight decrease in rapid eye movement sleep on the first drug night. 18 references. (Author abstract modified)

079356 Lieberman, Carl M.; Lieberman, Beth W. 500 East 85th Street, New York, New York 10028 Marihuana - a medical review. *New England Journal of Medicine*. 284(2):88-91, 1971.

The psychic and physiologic sequelae of the consumption of marihuana are of considerable medical interest. What is known and unknown about marihuana is here briefly reported, including a look at its history and use as an analgesic, anticonvulsant and muscle relaxant, as well as a psychoactive drug. The plant, cannabis sativa, is the source of marihuana, of its psychoactive isomer, delta 9-tetrahydrocannabinol (THC), and of over 30 other cannabinoids resulting from chemical analysis of its resins. Animal pharmacological studies reveal that the effects of crude marihuana preparations and THC are primarily on the central nervous system, though unfortunately these studies cannot determine the psychic effects in humans: altered time perception, euphoria, and dreamlike fantasies. This psychoactivity in humans is described and details are given of the acute physical effects of marihuana intoxication. Although neither tolerance nor withdrawal symptoms result from chronic recourse to marihuana in humans, psychologic dependence has been reported. At present, only retrospective studies are available

for study of the influence of marihuana on progression to other drugs or to criminal activities. This is only associative evidence, and it is impossible to demonstrate a cause and effect relation. 29 references.

079431 Manno, Joseph E.; Kiplinger, Glenn F.; Scholz, Norman; Forney, Robert B.; Haine, Susan E. School of Pharmacy, Auburn University, Auburn, Alabama The influence of alcohol and marihuana on motor and mental performance. *Clinical Pharmacology and Therapeutics*. 12(2):202-211, 1971.

An investigation is undertaken of the effects of smoking marihuana cigarettes which deliver 2 different dose levels of delta-9-tetrahydrocannabinol (THC), alone and in combination with alcohol. This combination was chosen for study because there are many anecdotal reports that these 2 drugs are commonly used simultaneously. Twelve healthy male volunteers smoked marihuana cigarettes calibrated to deliver 0, 2.5, or 5mg. of THC either alone or in combination with a plain fruit flavored beverage or the same beverage containing 15 ml. of alcohol per 50 pounds of body weight. Each S received all 6 possible combinations in a double-blind randomized block experiment. The parameters measured were 4 pursuit meter tests (motor performance), 9 delayed auditory feedback tests (mental performance), pulse rate, conjunctival injection, and subjective effects (Cornell medical index). It was found that the high dose of THC produced significant impairment in performance of both mental and motor tasks and that alcohol induced an additional effect. There was little difference between the response to 2.5 and 5.0mg. of THC on these parameters. Conjunctival injection, pulse rate, and subjective effects were dose dependent and alcohol was additive. 11 references. (Author abstract modified)

079532 Elias, Merrill F.; Simmerman, Scott J. Center for the Study of Aging and Human Development, Duke University Medical Center, Durham, North Carolina 27706 Proactive and retroactive effects of diethyl ether on spatial discrimination learning in inbred mouse strains DBA/2J and C57BL/6J. *Psychonomic Science*. 22(5):299-301, 1971.

Proactive and retroactive effects of diethyl ether on spatial discrimination learning were studied in inbred mouse strains DBA/2J and

C57BL/6J. Diethyl ether was given before or after a single daily spatial discrimination trial in a water maze. Both C57BL/6J and DBA/2J mice made more errors than controls of these same strains when they were etherized after a trial, although the decremental effect on performance was more notable in the former strain. Pretrial etherization had no effect on errors, but mice etherized prior to each trial showed faster swimming times than control Ss. These data were discussed in terms of strain differences in ether stimulated arousal or activity level. 16 references. (Journal abstract modified)

**079760 Rajecki, D. W.; Saegert, Susan.** University of Michigan, Ann Arbor, Michigan 48104 Effects of methamphetamine hydrochloride on imprinting in white leghorn chicks. *Psychonomic Science*. 23(1A):7-8, 1971.

Acknowledging that birds aroused through exposure to additional external stimulation of the influence of the stimulant racemic amphetamine sulphate show enhanced social responses, the study extends the work on amphetamines by employing methamphetamine hydrochloride as a stimulant. It was found that, relative to saline controls, animals under the influence of the excitant yielded reliably stronger indices of imprinting. 8 references. (Journal abstract modified)

**079769 Koffer, Kenneth; Coulson, G. E. Clarke** Institute of Psychiatry, Toronto, Ontario, Canada Effects of chronic and acute morphine administration on one-way avoidance training. *Psychonomic Science*. 23(1A):47-48, 1971.

In a 2 by 2 design, chronically morphinized or nonmorphinized rats received either 7 mg/kg of morphine sulphate or physiological saline before training in a one way avoidance apparatus. During the acquisition stage, the acute administration of morphine increased the number of shocks received by the groups. During the criterion run of 10 consecutive avoidances, chronic morphinization decreased avoidance latencies, while acute morphine administration had no effect. 8 references. (Journal abstract)

**079780 Chien, Ching-Piao.** Franklin Mental Health Center, Boston State Hospital, 591 Morton Street, Boston, Massachusetts 02124 Psychiatric treatment for geriatric patients: 'pub' or drug? *American Journal of Psychiatry*. 127(8):1070-1075, 1971.

In a study of methods of psychiatric treatment ('pub' versus drug) for geriatric patients, 40 patients on a geriatric ward were divided into 4 groups. Three groups received a beverage (beer, fruit punch, or fruit punch with thioridazine) in a pub setup in the hospital; the fourth group received thioridazine on the ward. The group that received beer sociotherapy showed the greatest improvement and had the best attendance and greatest social interaction in the pub. Both groups that received thioridazine showed improvement, but not as much as the first group. The group that received only punch in the pub showed the least change. In view of these findings, it is believed beer sociotherapy deserves a place in the practical treatment of geriatric mental patients. 16 references. (Journal abstract modified)ENDTAPE 305414 TIS

**079832 Crane, George E.; Johnson, Albin W.; Buffaloe, William J.** Spring Grove State Hospital, Catonsville, Maryland 21228 Long-term treatment with neuroleptic drugs and eye opacities. *American Journal of Psychiatry*. 127(8):1045-1049, 1971.

Approximately 100 chronic schizophrenic patients were examined for drug induced eye changes. The lens was affected in 36 patients, the cornea in 19. There was a linear relationship between eye opacities and the total intake of drugs. Corneal opacities were also related to the intake of high doses of chlorpromazine over a short period of time. In most instances the ocular changes were irreversible. Despite heavy deposits in the anterior part of the eye, vision was unimpaired and the retina appeared to be intact. 14 references. (Author abstract)

**079833 Heiser, Jon F.; Gillin, John C.** U.S. Naval Hospital, Oakland, California 94627 The reversal of anticholinergic drug-induced delirium and coma with physostigmine. *American Journal of Psychiatry*. 127(8):1050-1054, 1971.

Physostigmine provides an effective and safe treatment for delirium and coma caused by anticholinergic agents such as atropine, scopolamine, and hyoscyamine. The supporting evidence is outlined and a recommended procedure is summarized. The purpose of this communication is to publicize this treatment and to demonstrate the risks, suffering, and expense that can be avoided by using it. 35 references. (Journal abstract modified)

082758 Fibiger, H. C.; Campbell, B. A. Department of Psychiatry, University of British Columbia, Vancouver 8, Canada The effect of parachlorophenylalanine on spontaneous locomotor activity in the rat. *Neuropharmacology (Oxford)*. 10(1):25-32, 1971.

The effect of p-chlorophenylalanine (p-CPA), a depletor of serotonin, on spontaneous locomotor activity was investigated in rats. It was found that p-CPA induced large and reproducible increases in locomotor activity in a variety of situations. This hyperactivity could be reversed by 5-hydroxytryptophan, a precursor of serotonin. The heightened behavioral arousal was not simply a reflection of the insomnia known to be produced by p-CPA, since hyperactivity occurred during both phases of the normal diurnal cycle and because baseline activity returned to normal at different rates depending upon the type of behavioral measure used. It is suggested that one function of serotonin is to modulate arousal thresholds and that the hyperactivity following p-CPA was due to a decrease in these thresholds. 24 references. (author abstract)

086076 Plzak, M.; Soucek, K. Psychiatricka Klinika Fakulty Vseobecneho Lekarsti KU, Praha, Czechoslovakia /Possibilities of accelerating the onset of the effect of antidepressive pharmacotherapy./ Moznosti urychleni nastupu efektu antidepressivni farmakoterapie. *Ceskoslovenska Psychiatrie (Praha)*. 67(1):32-34, 1971.

The possibilities of potentiating the effectiveness of antidepressives are reviewed. Antidepressives can be combined with a neuroleptic or a tranquilizer, as in the proven combination of amitriptyline and perphenazine. The effect of imipramine can be potentiated by the addition of a thyroid hormone (l-triiodothyronine) which is based on the phenomenological similarity of depression and hypothyroidism. The combination imipramine and pyrifur is effective in endogenous depression with marked symptoms of anxiety. This combination will bring relief by fever induction (which should not exceed 38.5C, regulated by drug ratio and dose). Relief and remission can be achieved within a few days in some cases by combining an antidepressive with a diuretic as in the combination amitriptyline and hydrochlorothiazide Spofa. The search for drug combinations should be continued because the so called fast acting effect of drugs like nortriptyline, desimipramine, parnate and other drugs has been disappointing. 8 references.

086572 Lehmann, H.E.; Ban, T. A. Douglas Hospital, Verdun, Quebec, Canada Effects of psychoactive drugs on conflict avoidance behavior in human subjects. *Activitas Nervosa Superior (Praha)*. 13(2):82-85, 1971.

A procedure for testing tolerance to conflictual stimuli in humans was developed, and the effect of 9 psychoactive drugs on conflict tolerance studied in 2 consecutive experiments. It was found that drugs usually referred to as anxiolytic sedatives increase conflict tolerance, while drugs usually referred to as neuroleptics do not. Similar to anxiolytic sedatives, psychostimulants also increase conflict tolerance, although of the 3 drugs tested only the effect of methamphetamine reached the accepted level of statistical significance. These findings suggest that a rationale for the clinical use of psychostimulants in human neurotic conditions may be constructed on the basis of Pavlov's original observations of the readaptive effects of a stimulant drug on the behavior of animals under the conditions of an experimentally induced neurosis. 12 references. (author abstract)

086683 Rodier, William L., III. Department of Psychology, University of Virginia, Gilmer Hall, Charlottesville, Virginia 22901 Progesterone-estrogen interactions in the control of activity-wheel running in the female rat. *Journal of Comparative and Physiological Psychology*. 74(3):365-373, 1971.

Progesterone injections (8mg/kg/day or larger) resulted in decreased wheel running activity and an increased rate of body weight gain in 7 female albino rats. These changes were evident from comparison to previous baseline determinations and to control animals. Injections of progesterone (40 mg/kg/day) into 11 ovariectomized animals had no effect on these measures. On the other hand, progesterone injections (16 mg/kg/day or larger) were effective in causing decreased activity and increased body weight when administered to 7 ovariectomized rats receiving estradiol cyclopentylpropionate. These results indicate that progesterone can influence wheel running and body weight through a direct interaction with estrogen, possibly by interfering with the effects of estrogen on these measures. 22 references. (Journal abstract)

086704 Fracchia, John; Sheppard, Charles; Merlis, Sidney. Research and Clinical Facilities, Research Div., Central Islip State Hospital, Central Islip, New York 11722 Combination medica-

tions in psychiatric treatment: patterns in a group of elderly hospital patients. *Journal of the American Geriatrics Society*. 19(4):301-307, 1971.

The patterns for treatment with combined medications were studied in a group of elderly male (N=137) and female (N=432) psychiatric patients housed in the continued treatment services of a state hospital. The combination most frequently used was that of an antidepressant agent with a tranquilizing drug (major or minor). Slightly more than half of all combinations of psychoactive agents prescribed for these patients were composed of a tranquilizer and an antidepressant agent. The combining of particular psychotropic drugs appeared to be related to the sex and age of the patients. Major tranquilizers were used proportionally more often as part of a combination for patients (both sexes) below the age of 70, and proportionally less often for patients aged 70 or older. Certain drugs -- perphenazine, chlorprothixene, diazepam and amitriptyline -- were used in combinations much more often for female patients than for male patients. Thus the combinations of amitriptyline with chlorprothixene or perphenazine, and of imipramine with diazepam or perphenazine, were used almost exclusively for females. On the other hand, combinations involving the use of thioridazine with trifluoperazine or imipramine were used more often for male than for female patients. 1 reference. (Journal abstract)

086774 Valle, Jayro R.; Vidal, Gullherme. Servico de Pediatria, Hospital dos Servidores do Estado, Rio de Janeiro, Brazil /The use of valnoctamide in the treatment of certain behavior disorders in children./ Sobre o uso de valnoctamide no tratamento de alguns distúrbios de conducta na infancia. *Revista Brasileira de Medicina (Rio de Janeiro)*. 28(2):81-84, 1971.

Administration of 15 to 45 drops of valnoctamide, 1 to 3 times daily, proved to be highly effective in the treatment of 27 children with behavior disorders (aged 1 to 11 years) who completed 2 month treatment period. The best response was obtained against sleep disorders; emotional lability and hyperkinesia were affected to a lesser degree. Of the 40 children initially selected for treatment, 11 were dropped from the study for various reasons and treatment was suspended for 2 because of side-effects such as abdominal pain, headache, nausea, vomiting and anorexia.

086894 Barksdale, Barbara. Kilgore-Rollins Nursing Home, Pine Bluff, Arkansas Behavior problems in nursing home patients: treatment with thioridazine. *Current Therapeutic Research*. 13(6):359-363, 1971.

Ninety eight nursing home patients, primarily with chronic, irreversible illnesses, were treated with thioridazine (average 200mg/day) for from 3 weeks to 3 years. In addition to having certain physical disabilities, most patients were impaired mentally, often being agitated, confused, and/or withdrawn. Results of treatment were good for more than two thirds of the group (substantial behavioral improvement), fair for almost one fourth (some behavioral improvement), and poor for less than one tenth (inadequate behavioral response). Overall, patients were more cooperative and manageable. Untoward reactions were generally mild and transient. 4 references. (author abstract)

086936 Ritter, Robert M.; Nail, H. Ray; Tatum, Patsy; Blazi, Michael. Mississippi State Hospital, Whitfield, Mississippi The effect of papaverine on patients with cerebral arteriosclerosis. *Clinical Medicine*. 78(4):18, 21-22, 1971.

The hypothesis that papaverine, a long acting vasodilator, would be beneficial in patients with cerebral arteriosclerosis was tested in 60 geriatric patients. Two groups received either the drug or placebo on a double-blind basis and effectiveness of the drug was tested by comparing symptoms before, during and after treatment, based on various scales and rating measures. On the Global Rating, 68% of patients on papaverine improved, and the Wechsler Memory Scale revealed improvement in 17 of 28 patients receiving papaverine medication compared to 16 of 29 on placebo. Aside from the failure to show improvement in memory, 14 of the 16 symptoms investigated showed a beneficial effect of the drug with minimal adverse side-effects. The papaverine group showed greater improvement in the factors of neatness, manifest psychosis, retardation and total assets. The drug also appeared to improve somatic concern, anxiety, emotional withdrawal, tension, unusual thought, and hallucinatory behavior, although the results were not statistically significant. 15 references.

087270 Olsen, Ralph. 17030 West North Avenue, Brookfield, Wisconsin 53005 Pediatric practice: whose mood are we altering? *Pediatrics*. 47(5):961, 1971.

In a letter to the editor, the author comments on a case where the mother of a primary grade boy requested that he be put on methylphenidate hydrochloride because he was not sitting still in school and was disturbing other children. Complete physical examination had yielded no neurological abnormalities. Many normal boys seem hyperactive in first and second grade because they have to compete with a population of girls who are more intellectually mature than they are. This might possibly be circumvented by educating boys by themselves, as done in England. When boys do not have to compete with girls, they do much better.<sup>s</sup>

087272 Blackledge, Virginia Y.; Ekblad, Robert L. Alameda County Mental Retardation Service, 131 Estudillo Avenue, San Leandro, California 94577 The effectiveness of methylphenidate hydrochloride (Ritalin) on learning and behavior in public school educable mentally retarded children. *Pediatrics*. 47(5):923-926, 1971.

Three classes of public school children in educable mentally retarded (EMR) classes were administered methylphenidate hydrochloride (Ritalin) and a placebo in a double-blind study, with each child acting as his own control, to evaluate the effects of this medication on classroom behavior, academic performance, and home behavior. Pupils were rated on the Burks Behavior Rating Scale by teachers and parents; and the Gray's Oral Reading Paragraphs, the arithmetic section of the Wide Range Achievement Test, and the Porteus Mazes were administered. Only the teachers' ratings of classroom behavior showed a statistical difference in response to methylphenidate hydrochloride. Neither the parents' ratings of behavior nor the children's performance on the academic measures showed a statistically significant difference in response to treatment. Additional studies are needed to clarify the teachers' impression of improved academic performance and to study the effects of medication on the classroom environment as a whole. This additional study might need to be conducted over a longer period of time and different measures of academic improvement might be used. If behavior at home is to be studied, the medication should be given just before the pupil leaves for home. 11 references. (author abstract)

087348 Hartmann, Ernest. Sleep and Dream Laboratory, Boston State Hospital, Boston, Mas-

sachusetts 02124 L-tryptophan as a physiological hypnotic. *Lancet (London)*. No. 7703:807, 1971.

In a letter to the editor, the author states that L-tryptophan may be a physiological hypnotic or natural sedative, but questions the suggestion that the sedative effect of L-tryptophan does not involve the serotonin pathway. Recently reported data that there was a 20% decrease in REM sleep in man after L-tryptophan is seen as inconclusive evidence that it is not acting through serotonin. The effects on REM sleep time may not be relevant to the sedative effect. Since L-tryptophan in doses of 4 to 10g has such a strong sedative property, and since 0.5 to 2g is ingested in the normal daily diet, it may well play a role in normal tiredness and sleep induction. 7 references.

087363 Lader, M. H.; Walters, A. J. Department of Psychiatry, Institute of Psychiatry, University of London, England Hangover effects of hypnotics in man. *British Journal of Pharmacology (London)*. 41(2):412-413, 1971.

The hangover effects of butobarbitone sodium (100 and 200mg doses) and nitrazepam (5 and 10mg doses) were investigated in 10 normal subjects who received 5 treatments at weekly intervals as part of a double-blind experiment. The drug was taken at 23:00 hr and the physiological and psychological tests carried out 11.5 to 12.5 hr later. Following drug induced sleep, the tapping rate was slower, auditory reaction time was prolonged and fewer items of the digit symbol substitution test were completed than on placebo occasions. Impairment of performance was marked after the higher doses of each drug and was mainly due to a slowing down process. The EEG changes included decreased slow wave bands and increased fast bands. 2 references.

088360 Martin, William R.; Kay, D. C. National Institute of Mental Health Addiction Research Center, Lexington, Kentucky Effects of opioid analgesics and antagonists on the EEG (Unpublished paper). Lexington, Kentucky, NIMH, 1971. 37 p.

A wide variety of studies conducted in several species indicate that the opioid analgesics produce electroencephalographic (EEG) changes associated with sedation and sleep. These changes include the enhancement and slowing of alpha activity, the production of slow waves and the elevation of the threshold for activation of the EEG, either by sensory stimulation or stimulation of the reticular formation. Although the

mechanisms whereby opioid analgesics produce these changes have not been clearly elucidated, it is tempting to speculate that they may be in part related to the ability of these agents to inhibit the release of Ach or to enhance the release of serotonin. The evidence is quite clear that the opioid analgesics alter potentials evoked by stimulating different modalities of sensation and probably show selectivity in depressing activity evoked by stimuli that would also be perceived as painful. The slow wave activity induced by the opioid analgesics is at least in part related to their convulsant activity. There are several lines of evidence that suggest that there are several mechanisms whereby these agents produce seizure. The difference in EEG effects of convulsant doses of morphine and thebaine support this hypothesis. 63 references. (Author abstract modified)

088488 Tewfik, Gerald I.; Jain, V. K.; Harcup, Mary; Magowan, Samuel. Department of Psychiatry, University of Liverpool, 6 Abercromby Square, Liverpool 7, England Effectiveness of various tranquilizers in the management of senile restlessness. *Gerontologica Clinica (Basel)*. 12(6):351-359, 1971.

A drug trial was performed to assess the value of a variety of preparations in the management of restlessness occurring in frail, elderly patients. Evidence of the frailty of the group is shown by the fact that 10 patients died and 6 others had to be withdrawn from the trial because of physical illness before the completion of the trial, 36 weeks later. The group deteriorated very appreciably when their previous medication was withdrawn. There was further deterioration in patients treated with haloperidol and Benzhexol. Oxazepam, thioridazine and chlorpromazine were partially successful in controlling symptoms, the first being the most effective. Return of the patients to their previous medication produced behavior ratings very similar to those recorded at the commencement of the trial. This individually prescribed medication was superior to any routinely prescribed replacement. 20 references. (author abstract)

088596 Klalber, Edward L.; Broverman, Donald M.; Vogel, William; Abraham, Guy E.; Cone, Frederick L. Worcester Foundation for Experimental Biology, Shrewsbury, Massachusetts 01545 Effects of infused testosterone on mental per-

formances and serum LH. *Journal of Clinical Endocrinology and Metabolism*. 32(3):341-349, 1971.

Serial subtraction performances were measured before and after a 4 hr i.v. infusion of testosterone in 27 normal male subjects. Twenty seven control subjects, individually matched with the testosterone infused subjects for initial serial subtraction performance ability, received control infusions. Testosterone was infused at a rate of 0.8mg/hr. Plasma testosterone concentrations (PTC) and serum LH levels were measured at the beginning and end of the infusion in some subjects. The post-infusion task performances were poorer in both the testosterone and saline infused groups. However, the control group had a significantly greater decline in performance than the testosterone infused group. The PTCs of the saline group declined 21%, probably reflecting the diurnal variation reported for PTC. Control subjects with the lowest post-infusion PTCs had significantly greater declines in performances than those with higher post-infusion PTCs. In the subjects infused with testosterone the post-infusion PTCs increased by 44%. The testosterone infused subjects with the higher post-infusion PTCs had a greater deterioration in performances than the testosterone infused subjects with lower post-infusion PTCs. The saline infusion produced no consistent change in LH, whereas the testosterone infusion suppressed suppression LH levels in a significant number of subjects. Significantly less LH suppression occurred in the testosterone infused subjects with the higher post-infusion PTCs than in the testosterone infused subjects with lower post-infusion PTCs. The results suggest that infused testosterone positively affects performances of a repetitive mental task. The infused testosterone appeared to have less effect upon mental performances and upon LH suppression in subjects with high post-infusion PTCs. These subjects also appear to have had less long-term effect from their own endogenous testosterone secretion, as reflected by their significantly poor pubic hair development. 26 references. (author abstract)

089087 Bazell, Robert J. Author address not given Panel sanctions amphetamines for hyperkinetic children. *Science*. 171(3977):1223, 1971.

A government appointed panel of experts convened by the Department of HEW declared amphetamines to be safe and proper treatment for children suffering from hyperkinesis. It is claimed

that 3 to 10% of American children suffer from hyperkinesia and might benefit from this drug treatment. It is feared, however, that children who are the victims of poor classroom or family situations might be diagnosed and treated as hyperkinetics. The panel emphasized that it is important to recognize the children whose inattention and restlessness might be caused by hunger, poor teaching, overcrowded classrooms, or lack of understanding by teachers or parents. Adequate diagnosis may require the use not only of medical, but of special psychological, educational, and social resources. 1 reference.

090792 Sutter, J. M.; Scotto, J.-C.; Luccioni, H.; Dufour, H.; Saut, G.; Crespin, J. Hopital de la Timone, F 13, Marseille-5, France /Controlled trial of sulpiride in psychiatry./ Essai controle du sulpiride en psychiatrie. *Semaine des Hopitaux (Paris)*. 47(7):446-455, 1971.

Sulpiride, an original psychotropic drug, was made the object of a controlled trial using a multidisciplinary psychiatric approach (traditional case history and a standard 75 item case record sheet with 5 degree marking) and psychological tests (Barrage test, labyrinthic, visual retention and Zulliger Z tests) carried out immediately before treatment and repeated 1 and 4 weeks later. Fifty case histories were collected concerning almost exclusively psychotic subjects, mainly schizophrenics. The drug was administered intramuscularly at a dose of 600 mg daily and by mouth at a dose of 1200 to 1800mg daily. Sulpiride appears to be a well tolerated neuroleptic drug with very rare side-effects, a powerful effect in psychoses disinhibitory and with little sedative effect, mainly active in acute delirium and in acute exacerbations of the chronic psychoses, e.g. schizophrenia. Without being specifically thymoanaleptic, sulpiride has a powerful dynamic effect and quickly renders the patient more open to new relationships. 1 reference. (Journal abstract)

090929 Kupfer, David J.; Wyatt, Richard J.; Snyder, Frederick; Davis, John M. Department of Psychiatry, Yale University School of Medicine, New Haven, Connecticut Chlorpromazine and sleep in psychiatric patients. *Archives of General Psychiatry*. 24(2):185-189, 1971.

The effect of chlorpromazine on 9 psychiatric patients with sleep disturbance was investigated. The results showed that chlorpromazine given at

bedtime coincided with a marked increase in actual sleep time as exemplified by a significant decrease in intermittent wakefulness. Total rapid eye movement time was increased proportionately to increase in actual sleep. In a more extensive study in 4 patients, it was found that the administration of daytime chlorpromazine (100 mg) had no direct effect on sleep as compared to placebo. In contrast, bedtime chlorpromazine was associated with significant changes in various sleep parameters. That the time course of chlorpromazine administration is responsible for the differential effect on sleep is supported by the preliminary investigation with plasma chlorpromazine levels. 19 references. (Author abstract modified)

091779 Russell, M. A. H. Addiction Research Unit, Institute of Psychiatry, London S.E. 5, England Cigarette dependence: I-nature and classification. *British Medical Journal (London)*. 5757(2):330-331, 1971.

The nature and classification of cigarette dependence is discussed in terms of the onset of smoking which is due to the interaction of social and psychological factors and its continuation which is due mainly to dependence on the pharmacological effects of nicotine. Most smokers become regular, dependent smokers so it is a dependence disorder. There are subjective and physical withdrawal symptoms. Smokers are classified according to frequency, to control affect, occasion on which one smokes or according to motive (psychosocial, sensory or pharmacological rewards). Types of smoking are: psychosocial, indulgent, tranquilization, stimulation and addictive. 14 references.

092159 Fedio, Paul, Weinberg, Lucy K. Surgical Neurology Branch, National Institute of Neurological Diseases and Stroke, N.I.H., P.H.S., Dept., H.E.W., Bethesda, Md. 20014 Dysnomia and impairment of verbal memory following intracarotid injection of sodium amytal. *Brain Research (Amsterdam)*. 31(1):159-168, 1971.

A new procedure for monitoring verbal behavior during intracarotid injection of sodium amytal is described and the effect of left and right hemispheric barbituration on verbal, gnostic and mnemonic functions is examined in patients with atrophic epileptogenic lesions. Lateralization of left hemisphere dominance for verbal behavior was demonstrated with 12 neurosurgical patients by injection of Sodium Amytal into one, then the

other carotid artery (Wada technique). Barbiturate irrigation of the dominant hemisphere was accompanied by slowed resumption of object naming and mnemonic responses, transient dysphasia and a persistent, independent deficit in short-term verbal memory. Anesthetization of the minor speech mechanism was associated with no obvious dysnomia and a less significant disruption in recall of verbal memoranda. Comparable recovery of basic speech responsiveness following left and right injections failed to confirm a lateralized, hemispheric relationship between consciousness and language mechanisms. 27 references. (Author abstract modified)

**092717** Gilmour, Douglas G.; Bloom, Arthur D.; Lele, Kusum P.; Robbins, Edwin S.; Maximilian, Constantine. Dept. of Pathology, New York University School of Medicine, 550 First Avenue, New York, N. Y. 10016 Chromosomal aberrations in users of psychoactive drugs. *Archives of General Psychiatry*. 24(3):268-272, 1971.

Peripheral blood leukocytes from 56 users of psychoactive drugs and 16 nondrug users were cultured and examined for the presence of structural chromosomal abnormalities. None of the subjects admitted recent exposure to x-rays, other irradiation, or viral infection. Drug users were divided into 5 groups: those who smoked marijuana lightly; psychiatric patients treated with phenothiazine; and one group each of heavy users of 2 or more combinations of marijuana, heroin, and amphetamine. With the exception of the controls and the light users of marijuana, all groups showed elevated incidences of chromosomal aberrations. Increases were not general in any one group, but were largely accounted for by a few individuals within each group with more than one aberration each. Although it may be that any or all of the drugs could damage chromosomes in this way, it seems more likely that some other factor or factors common to drug users might be responsible. 12 references. (Author abstract)

**093112** Di Giusto, E. L.; Cairncross, K.; King, M. G. School of Behavioral Sciences, Macquarie Univ., North Ryde, New South Wales 2113, Australia Hormonal influences on fear-motivated responses. *Psychological Bulletin*. 75(6):432-444, 1971.

Literature was reviewed on hormonal influences on fear motivated responses. The physiological and behavioral properties of adrenaline, noradrenaline, adrenocorticotrophic

hormone (ACTH), and the glucocorticoids appear to be complementary. For example, adrenaline and noradrenaline are secreted early as a response to noxious stimuli and influence early acquisition of fear motivated responses. ACTH and the glucocorticoids are secreted relatively late and influence late acquisition and extinction of such responses. Together these substances form a physiological system which appears to significantly influence all states of acquisition and extinction of fear motivated responses. This system may also play a significant part in the formation of stress induced ulceration under certain conditions. Some explanations for the behavioral effects of these substances are suggested. 74 references. (Journal abstract modified)

**093231** Hussain, M. Z. Psychiatric Department, Department of Public Health, Moose Jaw, Saskatchewan, Canada Desensitization and flooding (implosion) in treatment of phobias. *American Journal of Psychiatry*. 127(11):1509-1514, 1971.

A controlled crossover trial of desensitization and flooding therapy assisted by intravenous thiopental or saline infusion was carried out in 40 patients with agoraphobia or social phobias. Patients showed gradual symptom improvement with desensitization treatment, whether it was assisted by saline or thiopental, and continued to improve after crossover. Patients receiving thiopental assisted flooding showed marked and faster improvement, while those receiving saline assisted flooding treatment showed slight improvement. It is concluded that desensitization and flooding produce the best results with phobic patients but could also prove useful in general psychiatric management. 22 references. (Journal abstract modified)

**093258** Wyatt, Richard J.; Gillin, J. Christian; Green, Richard; Horwitz, David; Snyder, Frederick. National Institute of Mental Health, Bethesda, Maryland 20014 Measurement of phasic integrated potentials (PIP) during treatment with parachlorophenylalanine (PCPA) (Unpublished paper). Bethesda, Maryland, NIMH, 1971

Sleep phasic integrated potentials (PIPs) were measured in 2 patients with severe migraine headaches given parachlorophenylalanine (PCPA) as a possible therapy. Prior to PCPA administration patients were given an equal number of identical placebo capsules and PIPs measured. PIPs were recorded on a Grass 7P3A integrator

preamplifier (Model 78) using galvanometers with a 2 inch deflection. The amplifier was set on its highest sensitivity with the lowest threshold and full rectification. The half low frequency time constant was at 10 and the integrator time constant on 0.02. Individual deflections were counted if they were at least twice baseline but not associated with spindles or within 10 seconds of movement artefact. To partially avoid the misleading idea that absolute numbers have a meaning, a ratio of counts per minute in nonrapid eye movement (NREM) vs per minute in rapid eye movement (REM) is presented. In the 2 patients NREM/REM placebo PIPs were 0.083 and 0.2091 which rose to 0.3207 and 0.8614 respectively after 2 to 3 weeks PCPA treatment (2 gm/24 hr). This represented an approximately 4 fold rise in the NREM/REM ratio for both patients at a time when REM sleep was 10 to 30% below baseline. This change was due both to a decrease in PIP counts in REM and an increase in NREM sleep. In addition to PCPA increasing PIP activity during NREM sleep, a large number of rapid eye movements during NREM (primarily stage II) were noted. (Author abstract modified)

**093262 Gittelman-Klein, Rachel; Klein, Donald F.** Hillside Hospital, 75-59 263rd Street, Glen Oaks, New York 11004 School phobia: diagnostic considerations in the light of imipramine effects. Research Report, NIMH Grant MH-14514, 1971. 32 p.

The results of a double-blind, placebo controlled study of the effects of imipramine among 35 school phobic children between the ages of 6 to 14 are reported. The children and families were given a multi discipline treatment program, concurrently with imipramine or placebo treatment. Imipramine, over a 6 week period, was found to be significantly superior to placebo in inducing school return, and in global therapeutic efficacy. Doses of medication ranged from 100 to 200mg./day after 6 weeks of treatment. It was found that imipramine effects could not be detected after 3 weeks of therapy; but were clearly present after 6 weeks. Of 10 items rated by the psychiatrists at baseline and after 6 weeks of treatment, 4 which reflect the severity of the child's phobic behavior, the child's venturesomeness from the mother, physical symptoms while going to school, and fear of going to school were significantly improved by imipramine treatment. Among 10 items rated by mothers, only 1 reflect-

ing depressive mood showed a significant drug effect. On the whole, side effects were not significant, and only 1 child required dosage alteration due to orthostatic hypotension. The diagnostic characteristics of this population are discussed. Further, the relevance of the findings to theories of school phobia is examined. 16 references. (Author abstract)

**093697 Snyder, Solomon H.** author address not given Work with marijuana: I. effects. *Psychology Today*. 4(12):37-38,40,64-65, 1971.

A number of recent research experiments on the effects of marijuana on experienced and novice users are reviewed. Effects on heart rate, respiration, blood vessels, liver, attention, word power, muscular coordination, mental performance, conversation, sense of time, memory, and the ability to drive an automobile have been examined. Potency of the marijuana was varied by moderating the amounts of tetrahydrocannabinol (THC) in the test cigarettes. The only notable physical changes found were slightly increased heart rates and dilation of blood vessels in the conjunctivae of the eyes -- which produced the familiar red eyes of the marijuana smoker. In general, the short-term effects create a negative tolerance: veteran users do not develop immunity but instead learn to smoke less and enjoy it more. In opposition to alcohol, the experimental subjects tended to do ordinary tasks such as driving a car better when stoned on pot than when they were sober. The drug seemed to affect mental performance only on intricate intellectual tasks that required the subjects to keep a long-term goal in mind. 5 references.

**094970 Balassa, M.; Deisenhammer, E.; Scherrer, H. Wagner Jauregg Krankenhaus Land Oberosterreich, Austria /Clozapin, a noncataleptogenic neuroleptic for the treatment of agitated condition behavioral disorders./ Clozapin, ein nicht kataleptogenes Neuroleptikum, in der Behandlung von Verhaltensstörungen mit Erregungszuständen. Wiener Medizinische Wochenschrift (Vienna). 121(6):90-92, 1971.**

Clozapin was clinically tested for its proficiency in controlling conditions of excitability, agitation and acts of aggression. The medication was dispensed at a low dosage of 15 to 75mg. daily for over 4 weeks at a psychiatric institution to mostly chronic patients, primarily to imbeciles and defective schizophrenics with explosive, partially ag-

gressive, partially self-destructive behavior. The most notable effect of Clozapin was a substantial reduction in excited, aggressive, and agitated behavior. It is especially suited for continued treatment of agitated conditions regardless of their origin because: 1) there is only a small tolerance build up; 2) it is not cumulative; 3) it has no or only minimal side effects. It chemically resembles Clothiapin, whereas its pharmacological effect is similar to Chlorpromazin. This medication makes available a neuroleptic of high effectiveness at low dosage with negligible side effects. 4 references.

**095459 Oettinger, Leon, Jr.** University of Southern California School of Medicine, Los Angeles, California Learning disorders, hyperkineses, and the use of drugs in children. *Rehabilitation Literature*. 32(6):162-167, 170, 1971.

The use of drugs to enhance learning and inhibit hyperkineses in children is discussed with regard to abuse, misuse, advantages, and alternatives. A great many of the objections to the use of behavior controlling drugs on children arise from reports of abuse (self administration of drugs without medical supervision and particularly in large doses) and misuse (wherein the physician initiates a potentially dangerous course of drug therapy). Where proper administration of drugs is the rule, it appears that the use of drugs is preferable to no treatment at all; or in many cases, preferable to counseling or other behavioral therapies. It is concluded that drugs represent a safe and valuable method of partially treating learning and behavior disorders in children, and the administration of such drugs should be part of the training of all pediatricians and neurologists. 66 references.

**095480 Abel, Ernest L.** Department of Psychology, University of Toronto, Canada Retrieval of information after use of marihuana. *Nature (London)*. 231(5297):58, 1971.

A preliminary investigation is reported of the effects of marihuana on the retrieval aspect of memory; volunteers between the ages of 21 and 30 who acknowledge previous use of marihuana were used as subjects. Immediate free recall was tested by having the subjects recall as many words as possible that were read from 15 lists of 10 words each. Subjects then smoked a marihuana cigarette of undetermined tetrahydrocannabinol content for about 5 minutes. Controls participated

in the same manner but used no marihuana. Efforts were made to evaluate the motivation of experimental and control subjects since those with previous marihuana experience (all used as experimental subjects) could reasonably be thought to bring a decreased motivation into the study that could bias results. In general, the study results show no effect on the retrieval of information stored before using marihuana, but there were suggestions that information failed to become encoded in the memory stores after marihuana was used. 7 references.

**095924 Korein, Julius; Fish, Barbara; Shapiro, Theodore; Gerner, Edward W.; Levidow, Luci.** New York University Medical Center, 550 First Ave., New York, New York 10016 EEG and behavioral effects of drug therapy in children. *Archives of General Psychiatry*. 24(6):552-563, 1971.

The results of a double-blind study evaluating the EEG and behavioral effects of chlorpromazine hydrochloride and diphenhydramine hydrochloride on 29 children indicate that EEG findings alone can show whether or not a child is receiving medication. There was also a significant correlation between the more marked clinical behavior changes and the more marked EEG changes. The EEG effects of both drugs included slow alpha waves and generalized slowing, in the case of diphenhydramine hydrochloride, high voltage 4 to 6 cycle per second activity was uniformly produced by the relatively high doses used in this study. 50 references. (journal abstract)

**095925 Melges, Frederick T.; Tinklenberg, Jared R.; Hollister, Leo E.; Gillespie, Hamp K.** Dept. of Psychiatry, Stanford University School of Medicine, Stanford, Calif. 94305 Marihuana and the temporal span of awareness. *Archives of General Psychiatry*. 24(6):564-567, 1971.

A double blind study using 8 graduate student subjects measured the effects of marihuana on temporal perspective. Oral doses of extracts of marihuana were found to induce a greater concentration on the present and a foreshortening of the span of awareness into the future. Although there were individual differences in emotional reactions, the greater concentration on the present was associated, in general, with euphoric moods. 15 references. (journal abstract modified)

097414 Capaldi, E. J.; Sparling, Daniel L. Department of Psychology, Purdue University, Lafayette, Indiana 47907 Amobarbital and the partial reinforcement effect in rats: isolating frustrative control over instrumental responding. *Journal of Comparative and Physiological Psychology*. 74(3):467-477, 1971.

Each of 3 runway investigations contained 2 partial reinforcement (PRF) groups. Extinction was preceded by injections of either amobarbital or saline. In acquisition, injections of amobarbital preceded nonrewarded trials followed by rewarded trials in 1 PRF group, and rewarded trials followed by nonrewarded trials in the other PRF group. Only the latter group showed a partial reinforcement effect in amobarbital extinction. These results isolate and identify the PRF trials on which frustration acquires control over the instrumental reaction and suggest that nonreward occasions emotionally neutral stimuli which can sustain a partial reinforcement effect. 23 references. (Journal abstract modified)

098149 Wyatt, R. J.; Zarcone, V.; Engelman, K.; Dement, W. C.; Snyder, F.; Sjoerdsma, A. National Institute of Mental Health, Bethesda, Maryland 20014 Effects of 5-hydroxytryptophan on the sleep of normal human subjects. *Electroencephalography and Clinical Neurophysiology (Amsterdam)*. 30(6):505-509, 1971.

The effects on sleep of increasing brain serotonin with 5-hydroxytryptophan (5-HTP), the immediate precursor of serotonin, were studied on 12 normal subjects. In each subject, rapid eye movement (REM) sleep increased from 5 to 53% of placebo baseline. The total rapid eye movement activity also increased. Non-REM sleep decreased slightly, apparently compensating for the increased amount of REM sleep. The apparent serotonin - REM sleep association is discussed in light of recent animal experiments in which total insomnia was produced by decreasing brain serotonin concentration with parachlorophenylalanine. 22 references. (Author abstract)

098229 Droller, H.; Jayaram, V. K.; Bevans, H. G.; Bentinck, S. J. St. James's Hospital, Leeds 9, England A reevaluation of cinnarizine with geriatric inpatients. *Gerontologia Clinica*. 13(1-2):89-95, 1971.

A statistical evaluation of cinnarizine in geriatric patients showed the drug not to be of any value in reversing the deterioration of pa-

tients suffering from chronic brainsyndrome. A double blind trial was statistically evaluated and showed significant deterioration due to the inherent disease processes. Previous favorable reports in the literature could not be confirmed. 7 references. (Journal abstract)

098612 Demers, Robert G.; Heninger, George R. Department of Psychiatry, Yale University School of Medicine, New Haven, Connecticut Visual-motor performance during lithium treatment: a preliminary report. *Journal of Clinical Pharmacology and New Drugs*. 11(4):274-279, 1971.

To describe more accurately the alterations produced in mental functioning by lithium carbonate treatment, performance on the Bender Gestalt (BG) test and the randomized and nonrandomized digit symbol (DS) test was assessed in 6 patients before, during and after a period of lithium carbonate treatment. Therapeutic serum lithium ion concentrations were associated with impaired DS test performance when the patients were compared with themselves or with matched control subjects. Performance on the BG test was not affected by the lithium carbonate treatment. The impaired DS test performance was associated with the presence of neuromuscular symptoms and both the test performance and the symptoms improved when lithium carbonate treatment was discontinued. The data suggests that lithium carbonate treatment reduces the speed of cognitive processes. Whether this is the mechanism by which lithium normalizes mood, and whether this effect is also observed when lithium carbonate is used as a chronic prophylactic treatment are important questions for further study. 11 references. (Author abstract)

098731 Serafetinides, E. A.; Colmore, John P.; Rahhal, Don K.; Clark, Mervin L. EGG Laboratories, University of Oklahoma School of Medicine, Norman, Oklahoma Trifluoperidol in chronic male psychiatric patients. *Behavioral Neuropsychiatry*. 3(1-2):10-12, 1971.

Trifluoperidol, a butyrophenone compound, produced statistically significant, though clinically slight, improvement, compared with placebo, in a group of chronic psychotic male patients. This was much less than anticipated from a previous experience with women subjects, and it is proposed that the drug may have a differential effect on the sexes. 9 references. (Journal abstract)

**098733** Strassman, Harvey D.; Hood, Peter; Brisson, Bernard. University of California, Irvine, California Thyroid hormone binding proteins and acute psychiatric illness. *Behavioral Neuropsychiatry*. 3(1-2):22-24, 1971.

A pilot study was done of 11 acutely psychotic patients in good physical health admitted for the first time to a psychiatric hospital. They were examined for extent of psychiatric illness by the Inpatient Multi-dimensional Psychiatric Scale (IMPS) and a blood sample was collected for serum protein testing on admission and 2 weeks later. There was a very high correlation between the extent of illness as rated by the IMPS scale and a shift in the binding site of radioactive-labeled triiodothyronine from alpha-globulin fractions to beta-globulin fractions. It is postulated that this shift in binding site under stress makes thyroid hormone more available for use in stress situations. The implications of this finding remain to be clarified. 12 references. (Journal abstract)

**098736** MacKay, D. N. Eastern Special Care Management Committee, Muckamore Abbey Hospital, County Antrim, Northern Ireland Evaluation of tranquillisers with subnormal patients. *Nursing Mirror and Midwives Journal (London)*. 133(5):17-18, 1971.

An evaluation of the usefulness of tranquilizers with subnormal patients is presented, with focus on some basic problems of design. The value of other methods of treatment is acknowledged, but it is noted that a strong case can be made for the use of tranquilizers in overcrowded wards. Emphasis is on the type of patient whose behavior is apparently unplanned. The problem of evaluating tranquilizers is discussed along with methods of evaluation, with examples illustrating the difficulties of establishing a causal relationship between the tranquilizer and behavioral change. Other problems considered include observer bias, the placebo effect, and the significance of side effects.

**098880** Petre-Quadrens, O.; De Greef, A. Department of Developmental Neurology, Born-Bunge Foundation for Scientific Research, Berchem-Antwerp, Belgium Effects of 5-HTP on sleep in mongol children: preliminary results. *Journal of the Neurological Sciences (Amsterdam)*. 13(1):115-119, 1971.

The density of eye movements during rapid eye movement (REM) sleep was compared in normal

and mongol neonates of similar gestational age. The number of eye movements during sleep was decreased in the mongols and the distribution of the high density eye movement patterns within the consecutive REM epochs differed considerably from those seen in normal newborn infants. After 5-hydroxytryptophan intake, the density of the eye movements (I equals number of intervals less than 1 sec) increased in mongol children older than 1 year of age, and their distribution during sleep showed a periodic alternation of high and low density REMs similar to the REM rhythm seen in normal children. 10 references. (Journal abstract modified)

**098894** Claghorn, J.; Neblett, C.; Sutter, E.; Farrell, G.; Kraft, I. Texas Research Institute of Mental Sciences, Houston, Texas The effect of drugs on hyperactivity in children with some observations of changes in mineral metabolism. *Journal of Nervous and Mental Disease*. 153(2):118-125, 1971.

Administration of acetazolamide (with indwelling intraventricular catheter) to 23 retarded children has confirmed the finding of reduced cerebrospinal fluid (CSF) and slight potassium reduction, and the consequent hypothesis that the drug reduced hyperactive behavior. For comparison, amphetamine, a commonly used drug in this indication, placebo, and no treatment were used. Activity was measured using a room equipped with monitored toys and sonic sensors as well as global and ward behavior rating scales. Measures of serum and red cell electrolytes were performed. Acetazolamide was found to reduce serum and red cell potassium. No other electrolyte effects were found with any drug. Of the 4 treatment conditions, acetazolamide and placebo improved hyperactivity; acetazolamide was statistically superior. The theoretical significance of this finding is not clear, as this drug is known to have many pharmacological actions. Large amounts of the drug enter the CSF and may directly affect neurons; CSF production is reduced and potassium levels are altered; carbonic anhydrase inhibition occurs. Any one of these actions might be relevant, or for that matter, combinations of these effects may account for the undisputable reduction in hyperactivity noted in this short trial. 10 references. (Author abstract modified)

**098916** Hollister, L. E. Veterans Administration Hospital, Palo, Alto, California 94304 Anxiety,

depression and psychotropic drugs. *Drugs (Basel)*. 1(3):189-193, 1971.

A discussion of anxiety, depression and psychotropic drugs is based on the premise that both anxiety and depression are symptoms strongly rooted in life experiences. Therefore limited value is ascribed to the use of drugs in treating anxious or depressed patients, even though they may afford an avenue of relief more easily than any other treatment. It is noted that not very many clinicians believe that available drugs are adequate, and that clinical comparisons are not always reliable. 8 references.

099063 Wyatt, Richard J.; Chase, Thomas N.; Kupper, David J.; Scott, Jimmy; Snyder, Frederick; Sjoerdsma, Albert; Engelman, Karl. National Institute of Mental Health, 9000 Rockville Pike, Bethesda, Maryland 20014 Brain catecholamines and human sleep. *Nature (London)*. 233(5314):63-65, 1971.

Previously noted discrepancies between human and other mammals regarding the association of serotonin and sleep were studied, including the fact that L-dopa, the immediate precursor of dopamine and noradrenaline produces a decrease in human rapid eye movement (REM) sleep which is opposite to the predictions based on animal studies. To determine the role of the adrenergic nervous system in human sleep, the effect of depleting brain catecholamines by alpha-methyl-d-l-phenylethylamine (AMPT) and alpha-methyl-P-phenylalanine (AMPH) was studied in 5 men and 3 women (2 with essential hypertension, 4 with pheochromocytoma, 1 with Huntington's chorea, and 1 with dystonia musculorum deformans). Drugs were administered to the patients for therapeutic purposes. A constant number of capsules of either placebo or active drug were given 4 times daily with a maximum dose of 2-3gm per 24 hour period. No other drugs were administered and daytime naps were forbidden. In all subjects AMPT or AMPH was associated with elevation in total REM sleep from 3-52%. The total number of REM cycles was not affected, only the duration of each. Results indicate that central catecholamine containing systems take part in the control of sleep in man. These observations differ from animal studies in which catecholamine synthesis was inhibited. 22 references.

099118 Haider, Ijaz; Oswald, Ian. Department of Psychological Medicine, Welsh National School of

Medicine, Whitchurch Hospital, Cardiff CF47XB, Wales Effects of amylobarbitone and nitrazepam on the electrodermogram and other features of sleep. *British Journal of Psychiatry (London)*. 118(546):519-522, 1971.

Sodium amylobarbitone 200mg and nitrazepam 10mg induced similar alterations from the normal in the all night sleep of volunteers. The drugs delayed and suppressed rapid eye movements (REM) sleep and increased stage 2 sleep. They reduced delay to sleep, reduced intrasleep restlessness and time in stage 1 sleep. They reduced spontaneous electrodermal (galvanic skin) activity in stage 4 sleep and in REM sleep. All effects were more marked when the drug dosage was doubled. 18 references. (Author abstract modified)

099747 MacKay, D.N.; Browne, E. Muckamore Abbey Hospital, Co.Antrim, Northern Ireland Evaluation of tranquillisers with subnormal patients. 3: behavioural changes. *Nursing Mirror and Midwives Journal (London)*. 133(7):34-37, 1971.

Methods used to assess behavioral changes in disturbed subnormal patients and the interpretation of findings in a trial of sulthiame are presented. The aim is to teach a method of evaluation more than to report specific results. The most noteworthy feature of the trials described is that the nurses themselves determined whether the drugs were useful or not. The other members of the teams simply interpreted the results. 3 references.

100259 Sugerman, A.Arthur; Mikszal, M.W.; Freymuth, Hans W. New Jersey Neuropsychiatric Institute, Princeton, New Jersey Comparison of prazepam and placebo in the treatment of convalescing narcotic addicts. *Journal of Clinical Pharmacology and New Drugs*. 11(5):383-387, 1971.

Prazepam, a benzodiazepine derivative, was compared to placebo in a double-blind control trial in 50 male patients between the ages of 20 and 49 selected as showing significant anxiety following the withdrawal of narcotic drugs. Twenty five patients in each group were studied for 2 weeks, while 16 patients in each group continued through a third week. The maximum daily dose of prazepam was 60mg, with most patients receiving 40mg daily. Self-rating scales showed significantly more improvement on prazepam in tension - anxiety, while psychiatrist's ratings showed significantly more improvement on prazepam in irritability and hostility as well as in a somatic hysteri-

cal scale measuring attention demanding and physical complaints. The benefits obtained from prazepam were evident only in the first 2 weeks of treatment, with no statistically significant differences apparent in the third week. It is suggested that this result was due to the self-limiting nature of the acute anxiety state following drug withdrawal, which runs its course over a period of approximately 3 weeks. However, larger samples may reveal continued benefits of prazepam administration over a longer period of time. It was concluded that prazepam appears to be a useful drug for the treatment of the anxiety state following narcotic withdrawal, and that it does not produce any notable side effects which would limit its use in such patients. 10 references. (Author abstract)

100412 Lowenstam, I. Veterans Administration Hospital, Los Angeles, Calif. Treatment of alcoholic withdrawal in the chronic alcoholic patient. *New York State Journal of Medicine*. 71(19):2306-2307, 1971.

An investigation comparing the efficacy and safety of mesoridazine and chlorthalidone in the treatment of newly admitted alcoholic patients in the withdrawal phase is reported. Double-blind conditions were maintained throughout the experiment. Duration of therapy was from 60 to 62 days. A 16 symptom rating scale was used to record the results of therapy, and the global response showed that mesoridazine brought about special improvement in anxiety, depression, tension, work and social improvement, psychomotor retardation, agitation, guilt feelings, initiative, somatic complaints, and cooperativeness. Results with chlorthalidone were fair to good for most patients. Results with mesoridazine were excellent for most patients.

100598 Tran, Ngo; Laplante, Marcel; Lebel, Etienne. Centre Hospitalier Universitaire, Sherbrooke, Quebec, Canada Decarboxylation of radioactive DOPA by erythrocytes in schizophrenia. *British Journal of Psychiatry (London)*. 118(545):465-466, 1971.

The decarboxylation of radioactive dopa by erythrocytes was demonstrated in red blood cells from normals and from schizophrenics. An ionization chamber method was used for instantaneous and continuous measurement of  $^{14}\text{CO}_2$  production from DL-dopa-carboxyl- $^{14}\text{C}$  by red blood cells in vitro. The observed abnormalities in the

decarboxylation of dopa by the schizophrenics are seen as evidence for the occurrence of abnormal metabolism of dopa in schizophrenia similar to previously reported abnormalities in the oxidative catabolism of L-methionine to  $\text{CO}_2$  in schizophrenic and depressive states. 7 references.

100626 Benson, William H., Jr. Center for Interpersonal Study, Smyrna, Georgia Comparative evaluation of diazepam (Valium) and phenobarbital: for the relief of anxiety-related symptoms in patients hospitalized for acute myocardial infarction. *Journal of the Medical Association Georgia*. 60(8):276-278, 1971.

In a double-blind randomized study the comparative effectiveness of diazepam (Valium) and phenobarbital was evaluated for alleviating anxiety related symptoms in 28 patients (6 females) hospitalized for acute myocardial infarction. The patients received either phenobarbital, 45mg - 2mg (12 subjects), or diazepam 6-16mg per day (17 subjects). Symptoms were rated for severity from 0=none to 4=severe at various observation periods, daily for 1 week and weekly thereafter for a maximum of 3 weeks. Diazepam produced consistently greater improvement of apprehension, restlessness, depressed mood, or preoccupation with illness than phenobarbital and the differences reached statistical significance at several observation periods. Diazepam also tended to maintain improvement more consistently. Average symptom severity scores calculated for apprehension, restlessness, depressed mood, and preoccupation for illness showed statistically significant differences in improvement favoring diazepam over phenobarbital. Because of its effectiveness and safety, the use of diazepam is preferable to phenobarbital for relieving anxiety related symptoms in patients hospitalized for acute myocardial infarction. 12 references. (Author abstract modified)

100813 Steinberg, Grace G.; Troshinsky, Charles; Steinberg, Harry R. Georgetown University Medical School, 3800 Reservoir Road, NW, Washington, D.C. 20007 Dextroamphetamine-responsive behavior disorder in school children. *American Journal of Psychiatry*. 128(2):174-179, 1971.

A group of 46 children in kindergarten through fourth grade whom their teachers considered to have severe behavior and/or learning disorders were randomly assigned to receive dextroamphetamine or placebo in a double-blind

crossover design. D-amphetamine produced behavioral improvement that was clearly distinguishable from placebo effects in 25 children (54% of the study population). This represents 7% of the total school population. The greatest improvement was seen in children with at least 1 hard neurological sign or 2 or more soft signs and a high hyperkinetic syndrome score. However, until a method of picking children with a bad prognosis is known, large scale case finding in the schools with recommendation for long-term d-amphetamine treatment is not advised. 6 references. (Journal abstract)

100821 Meyer, Roger E.; Pillard, Richard C.; Shapiro, Leo M.; Mirin, Steven M. Division of Psychiatry, Boston University School of Medicine, 80 East Concord Street, Boston, Massachusetts 02118 Administration of marijuana to heavy and casual marijuana users. *American Journal of Psychiatry*. 128(2):198-204, 1971.

In a comparison of 6 heavy and 6 casual smokers of marihuana, using placebo, a fixed dose of marihuana, and a self-selected ad lib dose, the subjects showed a modest decrease in perception and psychomotor task performance with both types of marihuana dose, though casual smokers experienced perceptual and affective responses to a placebo condition that mimicked their experience under marihuana. Some heavy smokers showed evidence suggestive of a mild hallucinogenic effect. It is urged that all studies using smoked marihuana take note of the subjects' previous smoking experience and that these data be considered in the interpretation of findings on the effects of cannabis. 23 references. (Journal abstract modified)

100851 Cooperstock, Ruth. Alcoholism and Drug Addiction Research Foundation, Toronto, Canada Sex differences in the use of mood-modifying drugs: an explanatory model. *Journal of Health and Social Behavior*. 12(3):238-244, 1971.

The findings of a study of the consumption of mood modifying prescription drugs in a large Canadian city are presented and compared with data from the US. The consistently higher prevalence of use of these drugs by women is examined. An explanatory model is proposed, suggesting that women are permitted greater freedom than men to express feelings, perceive their feelings more readily, and hence recognize emotional-difficulties. This recognition enables the

woman to define her difficulties within a medical model and thus bring them to the attention of her physician. The physician, representing the society that sanctions this freer expression, expects female patients to behave in this way, and thus expects them to require a higher proportion of mood altering drugs than the less expressive male patients. 20 references. (Journal abstract)

101615 Milner, Gerald; Landauer, Ali A. Claremont Hospital, Claremont, Western Australia Alcohol, thloridazine and chlorpromazine effects on skills related to driving behaviour. *British Journal of Psychiatry (London)*. 118(544):351-352, 1971.

Effects of drug alcohol combination on driving skills were investigated. Questionnaires and motor skill tests (including simulated driving) were given to 21 young men after medication with either 1mg/kg body weight chlorpromazine (Largactil), 1mg/kg thioridazine (Melleril), or placebo. The subjects were tested both before and after administration of alcohol (mean breath analyzer reading: 0.08%). Both phenothiazines increased the sedative and motor skill inhibition effects of alcohol, chlorpromazine being the more potent. Potentiation occurred with chlorpromazine and alcohol. 6 references. (Author abstract modified)

101657 Anton-Tay, F.; Diaz, J.L.; Fernandez-Guardiola, A. Departamento de Neurobiologia, Instituto de Investigaciones Biomedicas, UNAM, Ciudad Universitaria, Mexico 20, D.F. Mexico On the effect of melatonin upon human brain: its possible therapeutic implications. *Life Sciences*. 10(15):841-850, 1971.

Various doses of 5 methoxy-N-acetyltryptamine (melatonin) were administered to normal and epileptic subjects. Increase of EEG alpha activity, sleep, imagery, and a feeling of well being and elation were found. A decrease in paroxysmic graphoelements of the epileptic patients was also noticed. When 2 parkinsonians received 1.2g of melatonin orally for 4 weeks, a striking improvement in the symptoms and signs of the disease was detected. 14 references. (Author abstract modified)

101667 Linken, Arnold. University College London, Student Health Association, 17 Gordon Street, London WC1H 0AH, England Propranolol for L.S.D.-induced anxiety states. *Lancet (London)*. 2(7732):1039-1040, 1971.

The usefulness of propranolol (Inderal) in treating 3 students with LSD complications is reported. Each patient exhibited acute anxiety and/or depression following LSD use. Symptoms were relieved by administration of 10mg propranolol 3 times daily. It is felt that whatever the underlying psychodynamic or pharmacological mechanisms of these LSD related anxiety states, the value of propranolol clinically has been so striking that further clinical and pharmacological investigation would seem to be indicated. 1 reference.

101819 Roth, B. Katerinska 30, Prague 2, Czechoslovakia /Narcolepsy and hypersomnia./ Narkolepsie a hypersomnie. *Prakticky Lekar (Praha)*. 51(13):477-478, 1971.

The predominant symptom of narcolepsy is the state of uncontrollable sleep of brief duration. In approximately 70% of all cases it is accompanied by other symptoms, including cataplectic seizures, states of sleep paralysis, and hypnagogic hallucinations. In 30% of studied cases, narcolepsy is an independent manifestation. Its course is usually stable. Hypersomnia, like narcolepsy, can be subdivided into essential and symptomatic categories. In hypersomnia, sleep lasts longer and is less paroxysmal. It is never accompanied by cataplexies or other dissociative sleep manifestations. The various forms of this disorder are periodic hypersomnia, the Kleine and Levin syndrome, the Pickwickian syndrome, and hypersomnia with sleep intoxication. Psychotonic therapy, dexfenmetrazine, and centedrine are very effective for sleep disorders. The danger of habit formation and abuse is minimal, especially in narcolepsy. Imipramine is effective against cataplexy and sleep paralysis.

101939 Hadlik, J.; Sindelarova, M.; Svestka, J. Psychiatricka klinika lekarske fakulty UJEP, Brno-Bohunice, Czechoslovakia /Experimental and clinical experience with Encephabol therapy in gerontopsychiatry./ Experimentální a klinické zkušenosti s léčbou Encephabolem v gerontopsychiatrii. *Ceskoslovenska Psychiatrie (Praha)*. 67(3):129-133, 1971.

Pyrithioxine (Encephabol) has been found to generally improve short-term concentration and, subsequently, exactness of performance. In an experiment conducted to verify the effect of pyrithioxine on intellectual, attentive, and psychomotor functions in 33 patients with vascu-

lar or atrophic cerebropathies and involutional psychoses, pyrithioxine was administered for approximately 6 weeks. Psychological testing was carried out before treatment, 3 weeks after the onset of therapy, and after termination of therapy. While pyrithioxine had a positive effect on the quantity of performance in short-term attention tests, it produced poorer concentration during long-term trials. The drug had no effect on the capacity for deeper and more detailed analysis, but orientation and the capacity to solve simple social situations improved. From the clinical point of view, despite the generally limited global effectiveness of pyrithioxine (only 27% of the patients improved), the fact that the experimental conditions evoke poor therapeutic responses should be stressed. Further criteria for the selection of appropriate patients for pyrithioxine therapy must be specified. (Author abstract modified)

102187 Finnerty, Richard J.; Soltys, John J.; Cole, Jonathan O. Boston State Hospital, 591 Morton Street, Boston, Mass. 02124 The use of D-amphetamine with hyperkinetic children. *Psychopharmacologia (Berlin)*. 21(3):302-308, 1971.

The effects of short-term treatment of dextroamphetamine on hyperkinetic children were investigated on 20 children who were enrolled in a normal school setting. The study was carried out double-blind. Students were evaluated medically, psychiatrically, neurologically, and administered psychological testing consisting of the Wechsler Intelligence Scale for Children (WISC) and Wide Range Achievement Test (WRAT). Parents and teachers also evaluated the child on questionnaires. Students were given 5mg of dextroamphetamine in the morning by a nurse, and this was increased 5mg weekly until the maximum dose of 15mg was reached in the third week. Results indicated that there was a significant difference in classroom behavior and attitude toward authority on teacher's ratings. No significant differences were found on variables measured by the parents' questionnaires. WISC results indicated significant differences on pre-post measurements for placebo and drug; however, there were no significant differences in improvement scores when between group comparisons were made. WRAT results also remained unchanged. 11 references. (Author abstract modified)

102194 Jaattela, Antti; Mannisto, Pekka; Paatero, Helkki; Tuomisto, Jouko. Department of Pharmacology, University of Helsinki, Helsinki, Finland. The effects of diazepam or diphenhydramine on healthy human subjects. *Psychopharmacologia (Berlin)*. 21(3):202-211, 1971.

The immediate effects on the mood and some mental and physical functions of a single oral dose of diazepam (10mg) and diphenhydramine (50mg) compared with placebo were studied in healthy human subjects. The material comprised 270 students divided into 3 similar groups. The mood was tested by the Nowlis adjective check list. The digit symbol test and number series were used to test the mental condition. The major significant results of the study were: diazepam decreased activity both in men and women and sociability in women. It increased euphoria in men and depressivity and withdrawing in women. It impaired the results in the digit symbol test and the ability to repeat the number series in both men and women. Diphenhydramine also decreased activity in men and women. It caused some euphoria in men. It had a slighter depressing effect than diazepam on the mental functions. The many different effects in women as compared with men did not seem to be caused only by larger dose/kg given to the former. This was confirmed by an additional study in which a smaller group of men was given the same dose/kg of the drugs as the women in the main study, and vice versa. 16 references. (Author abstract)

102281 Drobny, M.; Bevilacqua, L. Kollarova 10, Martin, Czechoslovakia /Neuroleptanalgesia in bilateral simultaneous carotid angiography./ Neuroleptanalgeza pri bilateralnej simultannej karotickej angiografii. *Ceskoslovenska Neurologie (Praha)*. 34(4):215-220, 1971.

In a group of 29 patients who underwent bilateral simultaneous carotid angiography, neuroleptanalgesics were found to be very convenient for anesthesia; patient cooperation was good during angiography in 22 cases and satisfactory in the others. In no case was the technical quality of the pictures obtained unsatisfactory. Respiratory inhibition during the procedure is only slight and may even be useful in cases of subarachnoid hemorrhage to obtain some hypercapnia, which lowers the susceptibility to vascular spasm. Respiratory inhibition may even be influenced by verbal contact with the patient. The sensation of difficult breathing and anxiety is a sign of too

slight a degree of anesthesia and subsides when anesthesia is deepened. Only in 1 case was a hypotensive crisis with respiratory disturbance observed; it was caused by reflex vasomotor disorder in the collateral circulation from the external to the internal carotid artery in bilateral internal carotid obstruction. The patients do not experience negative affective reactions and are relieved of anxiety. Thus, they are not afraid of repeated examinations, an especially important factor since patient cooperation during angiography is essential. 16 references. (Journal abstract modified)

102350 Gardos, George; Cole, Jonathan O. Boston State Hospital, 591 Morton St., Boston, Mass. 02124 Evaluation of pyrovalerone in chronically fatigued volunteers. *Current Therapeutic Research*. 13(10):631-635, 1971.

An evaluation of pyrovalerone was made to test its efficacy in relieving long standing fatigue in symptomatic volunteers. Pyrovalerone was administered to 10 volunteers with long histories of troublesome fatigue. Daily dosage ranged from 40 to 160mg. There was a statistically significant reduction in symptoms related to fatigue as rated by the psychiatrist, the volunteer, and a close relative. Optimum dose was 40mg twice per day. This dose was well tolerated and markedly effective. The results justify further studies in this population with adequate controls. 3 references. (Author abstract modified)

103248 Wyatt, Richard J.; Fram, David H.; Buchbinder, Rona; Snyder, Frederick. NIMH, Building 10, Room 3N262, 9000 Rockville Pike, Bethesda, Maryland 20014 Treatment of intractable narcolepsy with a monoamine oxidase inhibitor. *New England Journal of Medicine*. 285(18):987-991, 1971.

Seven patients with intractable narcolepsy were treated with the monoamine oxidase inhibitor, phenelzine. Striking reductions in the amount of cataplectic attacks, sleep paralysis and the hypnagogic hallucinations were noted. In addition, daytime sleeping and hypersomnia were diminished, but side effects (hypotension, edema, impaired sexual function) were bothersome. Phenelzine almost completely suppressed rapid eye movement (REM) sleep and remained effective for periods of more than a year. Although dreams were frequently reported before drug treatment no dreams were reported when sleep

was completely absent. No adverse psychologic effects were noted during the period of total REM suppression. 20 references.

**103629** Milner, Gilbert C., III.; Ruffin, William C., Jr.; McGinnis, Nancy H. Department of Psychiatry, University of Florida, College of Medicine, Gainesville, Florida 32601 Lithium carbonate -- is it successful? *Psychosomatics*. 12(5):321-325, 1971.

Studies of lithium carbonate suggest that it is specifically indicated in the treatment of manic symptoms of manic-depressive illness, characterized by increased psychomotor activity, intensely elevated feelings, poor social judgments, flight of ideas, and reduced need for sleep. Its effects are negligible on conditions involving schizophrenic or paranoid thinking and on depressive states not alternating with periods of mania. It does, however, exert a mild to moderate antidepressant effect in the depressions of the bipolar manic-depressive illness. Further, there is evidence that it is effective in preventing recurrences of mania and depression. Eight cases are presented that confirm its effectiveness as an agent for the treatment of mania and hypomanic symptoms and as a prophylactic agent. However, 5 patients with schizoaffective reactions did not respond and required other treatment modalities. Careful, constant monitoring of serum levels is required to prevent side effects and toxic reactions. Results also indicate that lithium helps to restore the fourth stage of sleep characteristically decreased in manic depressive illness. 18 references.

**103797** Krauss, B.; Lauter, H. Psych.Universitätsklinik und Poliklinik, BRD-3400 Göttingen, v.-Siebold-St.5, Germany /Observations on changes in the clinical phenomenology of manic phases under extended lithium therapy./ Beobachtungen zum Gestaltenwandel manischer Phasen unter einer Lithiumdauerbehandlung. *Nervenarzt (Berlin)*. 42(7):356-359, 1971.

Clinical lithium research in the treatment of cyclothymia has been oriented toward quantitative analysis of the incidence, duration, and intensity of manic-depressive phases. An attempt is made to evaluate qualitatively the symptom modifications in cyclothymic patients under long-term lithium therapy. Four case histories are discussed. All 4 show deviations from the classic manifestation forms of the mania: elation and the uncritical

feeling of omnipotence are missing or modified by feelings of depression, by critical self-introspection, and anxiety. Patients strive for self-control and seemingly adapt to social behavioral norms. This can be interpreted as the simultaneous presence of both manic and depressive symptoms as well as abortive phases of the illness. Should the intensity of the interlocking symptoms require further therapy, it is difficult to determine whether neuroleptic or thymoleptic oriented drugs are indicated. Significant mitigation of psychopathological phenomena may also make diagnosis of a cyclothymic phase difficult; the phase remains clinically latent. The question is raised if the modifications in the psychopathological nature of manic phases might not represent a significant effect of continuous lithium therapy, at least for bipolar forms. 13 references.

**103912** Henry, B.W.; Overall, John E.; Markette, James R. Adult Psychiatry Outpatient Clinic, Univ.of Texas Medical Branch, Galveston, Texas Comparison of major drug therapies for alleviation of anxiety and depression. *Diseases of the Nervous System*. 32(10):655-667, 1971.

A comparison of the utility of antidepressant and antianxiety drugs to alleviate the core symptoms of anxiety and depression was made. No overall difference between the 2 major types of drug treatment could be identified. The relative efficacy of antianxiety and antidepressant drugs appeared to depend upon age and ethnicity of the patient. The antianxiety drugs appeared superior in treatment of younger patients and patients from minority ethnic groups; antidepressant drugs appeared superior in treatment of Anglo patients of older age group. Patient response is evaluated according to age, alcohol use, ethnicity and duration of treatment of each drug. An evaluation of the specific nature of antianxiety and antidepressant effects of the drugs is included. 22 references.

**103916** Fischer, Kenneth C; Wilson, William P. Dept.of Psychiatry, Duke Medical Center, Durham, N.C. Methylphenidate and the hyperkinetic state. *Diseases of the Nervous System*. 32(10):695-698, 1971.

The uses of methylphenidate (alpha-phenyl-alpha-pyridyl-2-acetic acid methylester hydrochloride) or Ritalin are explored. Initially used to relieve chronic fatigue in the elderly, methylphenidate was found to have many undesirable side effects. The drug was found to

reduce hyperactive behavior in animals and was tested on hyperkinetic children. The drug increased attention span, reduced hyperactivity, restlessness and distraction and allowed purposeful activity. It is also useful in speech therapy. The mechanism of action is explored. Side effects and abuse potential are listed. 21 references.

104363 Jasinski, Donald R.; Martin, William R.; Hoeldtke, Robert. National Institute of Mental Health, Addiction Research Center, Lexington, Ky. Studies of the dependence-producing properties of GPA-1657, profadol, and propiram in man. *Clinical Pharmacology and Therapeutics*. 12(4):613-649, 1971.

GPA-1657 (beta-(-)-5-phenyl-9-methyl-2'-hydroxy-Z-methyl-6,7-benzomorphan), profadol, and propiram are proposed as analgesics of low abuse potential since none will suppress but each will precipitate abstinence in morphine dependent monkeys. GPA-1657 is not an antagonist in man but a typical morphine-like compound and is judged to have significant abuse potential. Profadol and propiram act as antagonists in man and precipitate abstinence in subjects dependent on 240mg of morphine per day. As agonists, profadol and propiram resemble morphine-like rather than nalorphine-like drugs, since both produce morphine-like subjective effects and physical dependence and suppress abstinence in subjects dependent on 60mg per day of morphine. Both were judged to have abuse potential. Propiram was judged to have somewhat less abuse potential than profadol, since it produces less euphoria and less physical dependence. The morphine antagonist properties of profadol and propiram are thought to be caused by the fact that they are morphine agonist with less intrinsic activity than morphine. 29 references. (Author abstract)

104365 Bellville, J.Weldon; Forrest, William H., Jr.; Shroff, Phyllis; Brown, Byron W. Department of Anesthesia, Stanford University School of Medicine, Stanford, Calif. The hypnotic effects of codeine and secobarbital and their interaction in man. *Clinical Pharmacology and Therapeutics*. 12(4):607-612, 1971.

Codeine and secobarbital and a combination of the 2 were studied as nighttime hypnotics. There was a positive dose effect between 60 and 180mg of secobarbital, but increasing the dose of codeine from 30 to 90mg appeared to show a stimulant ef-

fect on onset and duration of sleep. Taken together, codeine plus secobarbital were more effective than was secobarbital alone. Analysis indicated that this interaction represented synergism. 10 references. (Author abstract)

104367 Kales, Joyce; Kales, Anthony; Bixler, Edward O.; Slye, Elaine S. Research and Treatment Facility, Dept. of Psychiatry, Milton S. Hershey Medical Center, Hershey, Pa. Effects of placebo and flurazepam on sleep patterns in insomniac subjects. *Clinical Pharmacology and Therapeutics*. 12(4):691-697, 1971.

In 12 insomniac subjects, placebo had no significant effects on sleep induction, sleep maintenance, or sleep stages, while flurazepam 30mg produced clear-cut decreases in sleep latency, wake time after sleep onset, total wake time, and number of wakes. The decreases were maintained throughout the drug administration period as well as on the first several withdrawal nights, indicating a carry over effect. There was agreement between the subjective estimates of sleep and the electroencephalogram (EEG) data in terms of both improvement in sleep induction and sleep maintenance with flurazepam and in the lack of effects with placebo. Flurazepam produced either no change or a slight decrease in the percentage of rapid eye movement (REM) sleep. There were no increases above base line following withdrawal. Stages 3 and 4 sleep decreased considerably with drug administration. This decrease being maintained during the drug withdrawal period. 6 references. (Author abstract)

104378 Sidell, Frederick R.; Pless, John E. Clinical Medical Sciences Department, Medical Research Laboratory, Edgewood Arsenal, Maryland 21010 Ethyl alcohol: blood levels and performance decrements after oral administration to man. *Psychopharmacologia (Berlin)*. 19(3):246-261, 1971.

Twenty six healthy young male subjects drank ethyl alcohol (diluted in orange juice) in doses ranging from 0.5-2.0ml/kg (0.4-1.6g/kg). Levels of performance on 3 measures correlated well with dose and blood alcohol levels and decline of effects paralleled the fall in blood levels. The greatest decrement in performance was on the test requiring hand - eye coordination; lesser decrements were produced on tests of cognitive ability. 22 references. (Journal abstract)

**104572 Davis, Karen V.** Institute for Juvenile Research, 907 S.Wolcott Ave., Chicago, Illinois. The effect of drugs on stereotyped and nonstereotyped operant behaviors in retardates. *Psychopharmacologia (Berlin)*. 22(2):195-213, 1971.

A study was done to assess the degree of operant control that could be achieved over stereotyped and nonstereotyped behaviors and explored the effects of 2 drugs on these behaviors in reference to arousal and operant interpretations of drug action. The Ss were 5 severely and 5 moderately retarded institutionalized males from 15 to 21 years of age. Their task was to obtain candy on an FR15 schedule of reinforcement by rocking or bar pressing in the presence of an appropriate SD. Each S received each drug (1.4mg/kg of thioridazine and 0.5mg/kg of methylphenidate) and a placebo twice in random order with no-drug sessions on the days preceding and following each drug session. Results in terms of pause time, response rate, and number of reinforcements obtained indicated that the 2 behaviors were comparable in their susceptibility to environmental control, but that the severely retarded Ss were more variable in their response than the moderately retarded Ss. The interpretation of drug results in terms of the arousal and operant viewpoints was complicated by 2 factors: (1) within each drug condition, there were Ss who increased and Ss who decreased from baseline on each measure, tending to produce insignificant results overall, and (2) the majority of Ss were consistent within themselves in terms of direction of change not only over behaviors but over drug conditions. 43 references. (Author abstract)

**104828 Coulter, Joe D., Lester, Boyd K.; Williams, Harold L.** University of Oklahoma Medical Center, 800 N.E.13th Street, Oklahoma City, Oklahoma 73104. Reserpine and sleep. *Psychopharmacologia (Berlin)*. 19(2):134-147, 1971.

In 2 separate experiments, EEG sleep patterns from 20 male Ss were examined following single and repeated oral doses (1mg) of reserpine. In the single dose study, reserpine caused increased REM, and decreased slow wave (SW) sleep, effects which became statistically significant on the postmedication (P-M) recovery session. Examination of parameters of the REM cycle revealed that the potentiation of REM sleep was due to its reduced latency of onset, and more frequent cyclic occurrence, not to increased duration of REM episodes. The results of the repeated dose

study replicated and amplified those of the first experiment, showing that medication caused a progressive increase in the amount of stage REM, accompanied by a simultaneous loss of SW sleep. During medication, epochs of stage REM were increasingly interrupted by brief arousals, with a simultaneous decline in the density of rapid eye movements. Most of these reserpine effects persisted into the P-M recovery session. Comparison of reserpine effects on sleep with those induced by precursors and blockers of serotonin, and by monoamine oxidase inhibitors suggests that the loss of SW sleep may have resulted from depletion of serotonin, whereas acceleration of the REM cycle may have been caused by a compensatory increase in its rate of synthesis. 35 references. (Author abstract modified)

**104831 Hartmann, Ernest; Chung, Richard; Chien, Ching-Piao.** Sleep and Dream Laboratory, Boston State Hospital, 591 Morton Street, Boston, Mass. 02124. L-tryptophane and sleep. *Psychopharmacologia (Berlin)*. 19(2):114-127, 1971.

L-Tryptophane, an essential amino acid and a precursor of serotonin, is shown to have definite effects on human sleep. In normal subjects it reduces sleep latency and slightly increases sleep length without altering the qualitative characteristics of polygraphically recorded sleep. In a double-blind study of 24 hospitalized insomniac patients, doses of 4g or 5g of L-tryptophane significantly increased sleep time, reduced sleep latency, and reduced the number of awakenings. 34 references. (Author abstract)

**105006 Bjorkstrand, Par-Ake; Dureman, Ingmar.** Clinical and Physiological Psychology Section, Uppsala Univ., Slottsgard 3, S-75220 Uppsala, Sweden. Relaxation transfer in electrodermal activity as affected by a new minor tranquilizer (4306CB). *Psychopharmacologia (Berlin)*. 20(3):288-298, 1971.

A study was designed to: 1) assess relaxation effects of the minor tranquilizer 4306CB on electrodermal reactivity, and 2) compare transfer effects between 2 consecutive sessions in groups with shifted or unshifted treatment. Four groups of male subjects were taken through 2 sessions of aversive instructed conditioning. Shocks (UCS) were administered by the subjects themselves each time the second hand of a clock facing the S passed 6 and 12. Before the first session, groups I and III received a placebo capsule, groups II and

IV a 4306CB capsule. At the second session group I was shifted to 4306CB and group II to placebo, while the other 2 groups received the same treatment as on session 1. Electrodermal reactivity was assessed in Log micro Mho units through phasic skin resistance response magnitudes (OR/CR, AR, UCR). In comparing the reactivity between the drug and placebo conditions of the first session, greater reactivity was found in the AR and UCR for the drug group. The shifted groups tended to increase their reactivity from session 1 to 2, while the nonshifted groups showed a corresponding tendency towards reduction of reactivity. This result suggests that the shift in treatment induces dissociative interference with relaxation transfer between sessions. 18 references. (Author abstract modified)

**105007** Lester, Boyd K.; Coulter, Joe D.; Cowden, Lawrence C.; Williams, Harold L. Univ. of Oklahoma Medical Center, 800 Northeast Thirteenth St., Oklahoma City, Okla. 73104 Chlorpromazine and human sleep. *Psychopharmacologia (Berlin)*. 20(3):280-287, 1971.

A study was designed to examine human physiological sleep profiles, including the amount and distribution of electroencephalographic (EEG) stages of sleep, variations in specific frequency bands in the EEG spectrum and certain phasic phenomena such as movement arousals, sigma spindles and rapid eye movements, following oral administration of a moderate dose (150mg) of chlorpromazine (CPZ) to 12 young male volunteers. At this dose level the drug had few systematic effects on sleep, although it did reduce the latency of onset of state REM and the number of movement arousals, while increasing the amount of slow wave (SW) sleep. These effects persisted during the postmedication recovery night, but at no time was there any systematic change in the total amount or percent of REM sleep, the duration of the REM to REM cycle, the average length of REM episodes or the density of rapid eye movements during stage REM. Frequency analysis of EEG revealed that CPZ produced a trend toward increased fast (beta) activity recorded from precentral placements during stage REM, and reduced density of sigma spindles in stage 2 sleep. The effects of the drug on stage REM apparently depends on dose. Small doses potentiate REM sleep or accelerate its onset, whereas larger doses either reduce stage REM or leave it unaffected. The finding that clinical doses

of CPZ cause mild sedation, and enhanced SW sleep without any significant modification of REM, sleep, indicates that CPZ has features which may recommend it as a standard hypnotic. 19 references. (Author abstract modified)

**105011** Jarvis, M.J.; Lader, M.H. Dept. of Pharmacology, University College London, Gower St., London, W.C.1, England The effects of nitrous oxide on the auditory evoked response in a reaction time task. *Psychopharmacologia (Berlin)*. 20(3):201-212, 1971.

The effects of low doses of nitrous oxide on the auditory evoked response in a reaction time task were studied. Reaction times and evoked electroencephalographic responses to tone stimuli were measured using a LINC-8 computer on-line. The effects on these measures of inhaling 10%, 20% and 30% nitrous oxide in oxygen were compared with those of pure oxygen in 12 normal subjects. Each subject gave 50 responses under each drug condition. Nitrous oxide prolonged reaction time and diminished all components of the evoked responses in a regular dose related manner. The form of the evoked response was also related to speed of reaction time. These findings are briefly discussed in terms of processes of attention and arousal. 4 references. (Author abstract modified)

**105119** Goldstein, Leonide; Stoltzfus, Neal W.; Smith, Robert R. Neuropsychopharmacology Section, New Jersey Neuropsychiatric Institute, Princeton, N.J. An analysis of the effects of methaqualone and glutethimide on sleep in insomniac subjects. *Research Communications in Chemical Pathology and Pharmacology*. 2(6):927-933, 1971.

An analysis was made of the effects of glutethimide and methaqualone, in comparison to placebo, on sleep in chronic male insomniacs. Both drugs were found to decrease latency to sleep with methaqualone having a more sustained effect. A study of the frequency distribution of the awakening length after sleep onset revealed that methaqualone tended to decrease the frequency of long awakening periods while glutethimide had no discernable effect on the distributions. Both drugs were found to decrease the probability of wakefulness at the end of the recording session, with a greater efficacy of methaqualone. 9 references. (Author abstract)

105485 Nahum, Louis H. 160 St. Ronan Street, New Haven, Connecticut 06511 Amphetamines in hyperkinesia: better learning through chemistry. *Connecticut Medicine*. 35(6):374,376, 1971.

The use of amphetamines with hyperkinetic children, children with school and family problems, and children with learning problems is discussed. The question is whether the treatment, which is said to have improved the classroom performance and concentration of some children, is potentially dangerous or not. The findings of an HEW panel on the question are discussed, with emphasis on some of the cautions expressed. The panel concluded that properly prescribed and applied amphetamine treatment was safe. The possibility of more general use of amphetamines as learning aids is noted.

105827 Medvecký, J.; Capoun, V.; Safko, S.; Marossyova, E. Psychiatrická klinika, náměstí Osloboditelů 18, Koscice, Czechoslovakia /Results of treatment with Pimozide./ Vysledky lečby Pimozidem. *Activitas Nervosa Superior (Praha)*. 13(3):178, 1971.

Pimozide was administered to 5 schizophrenics, 2 paraphrenics, 2 paranoid psychotics, and 1 paranoid schizoid psychopath. Other neuroleptics were given simultaneously. Pimozide improved motor and social activity as well as speech production in 9 out of 10 patients; the preparation was ineffective in the psychopathic patient. The significant merits of Pimozide are its single application and imperceptible hypnosedative effect. It is not indicated in the treatment of acute agitated psychotics. 5 references.

105834 Kumpel, O. Psychiatrická léčebna, Opava, Czechoslovakia /Comparison of prochlorperazine, perphenazine, and octoclotheperin in erethismic oligophrenia./ Srovnání prochlorperazinu, perfenazinu a octoclotheperinu u eretických oligofrenií. *Activitas Nervosa Superior (Praha)*. 13(3):177-178, 1971.

In a comparative investigation with 14 patients with serious disorders of intellect within the range of imbecility and idiocy and with social disorders, perphenazine was administered to 5, prochlorperazine to 5, and octoclotheperin to 4. Improved sociability was noted in 2 patients treated with prochlorperazine, in 1 patient treated with perphenazine, and in 1 patient treated with octoclotheperin. Worsening was found once with perphenazine and twice with octoclotheperin. It ap-

pears that octoclotheperin has a highly individualized effect and must be administered with caution.

105908 Hrbek, Jan; Navrátil, J. Institute of Higher Nervous Activity, Palacký University, Olomouc, Czechoslovakia Pharmacotherapy in the premenstrual tension. *Activitas Nervosa Superior (Praha)*. 13(3):189-190, 1971.

Observation of 159 women with mental illnesses and premenstrual difficulties has revealed a close relationship between the premenstrual syndrome and neuroses and manic-depressive psychoses. The subjects were divided into 6 groups, 5 of which were treated with premenstrin, oxyphenon duplex, chlorpromazine, nortriptylin, or melipramin in usual dosages. In less serious cases, positive results were observed after premenstrin and oxyphenon administration. In the sixth group, consisting of women with marked anxious depressive symptomatology, combined treatment with melipramin, thioridazin, and levopromazin led to simultaneous improvement of premenstrual difficulties and the basic disease.

105915 Hrbek, Jan; Komenda, S.; Siroka, A.; Macakova, J. Hnevotínska 3, Olomouc 5, Czechoslovakia Acute effect of dimethacrine (50mg), mefexamide (200mg), and dixyrazine (25mg) on higher nervous activity in man. *Activitas Nervosa Superior (Praha)*. 13(3):204-205, 1971.

Dimethacrine, mefexamide, and dixyrazine were administered to 8 male and 8 female volunteers aged 18 years old in dosages of 50mg, 200mg, and 25mg, respectively, to determine the effect of these drugs on certain aspects of higher nervous activity. The method of artificially conditioned speech connections, consisting of optic tactile, and acoustic associations, was used. Results showed that 2 hours after an oral administration of dimethacrine and dixyrazine, an improvement in the number of necessary repetitions and the number of correct responses was noted, but an impairment of the frequency of responses was observed. 4 references.

105916 Hrbek, J.; Komenda, S.; Macakova, J.; Siroka, A. Hnevotínska 3, Olomouc 5, Czechoslovakia Acute effect of medazepam (15mg), oxazepam (20mg), and diazepam (10mg) on verbal associations. *Activitas Nervosa Superior (Praha)*. 13(3):203-204, 1971.

Medazepam, oxazepam, and diazepam were administered in dosages of 15mg, 20mg, and 10mg, respectively, to 8 male and 8 female volunteers aged 21 years old to test the effect of these drugs on verbal associations. Investigations were based upon optic, tactile, and acoustic associations. An impairment in the formation of artificial conditioned speech connections was observed after an oral administration of diazepam. Some improvement in the results was noted at 1 and 2 hours following administration of medazepam. Oxazepam produced improvement after 1 hour but impairment after 2 hours. 3 references.

105917 Slanska, J.; Safratova, V.; Vojtechovsky, M.; Skala, J. Nad Sarkou 45, Prague 6, Czechoslovakia The effect of physostigmine on the perception and consolidation phase of memory and learning in alcoholics. *Activitas Nervosa Superior (Praha)*. 13(3):201-202, 1971.

The effect of physostigmine on the perception and consolidation phases of memory and learning was investigated in 22 abstinent alcoholics. Physostigmine was given in a dose of 0.6mg and was compared with placebo. Results indicated that physostigmine affects primarily material that requires a certain amount of mental processing, while mechanical memory remains uninfluenced by the drug dosage. Physostigmine also brings about better utilization of the information value of the presented stimulus and better schematic arrangement of the perceived information. A correlation with IQ failed to confirm that physostigmine in the administered dose benefits individuals with lower intelligence. 2 references.

105918 Hrbek, J.; Komenda, S.; Siroka, A.; Macakova, J. Hnevotinska 3, Olomouc 5, Czechoslovakia Effect of physostigmine on the inhibitory action of scopolamine in man. *Activitas Nervosa Superior (Praha)*. 13(3):199-200, 1971.

The method of artificial conditioned speech connections was utilized in a study of the antagonizing effect of physostigmine on the inhibitory action of scopolamine exhibited on higher nervous activity in 16 healthy and unfatigued volunteers. Physostigmine was administered 22.5 and 37.5 minutes after scopolamine, and scopolamine in isolation and placebo were applied. Statistically balanced trials were carried out before administration and 1 and 2 hours following administration of the studied drugs. After 1 hour, scopolamine alone produced a significant impairment in all the

tested characteristics. The antagonizing effect of physostigmine was greater when the drug was applied 22.5 minutes after the injection of scopolamine. After 2 hours, the inhibitory effect of scopolamine alone persisted, and the antagonizing effect of physostigmine was greater when it was administered 37.5 minutes after scopolamine. 2 references.

105922 Bartova, D. Psychiatricka klinika, Jihlavska 102, Brno-Bohunice, Czechoslovakia /NC-123 in the treatment of disturbances of sexual potency./ NC 123 v lebe poruch potence. *Activitas Nervosa Superior (Praha)*. 13(3):189, 1971.

In a study with preparation NC-123, mesoridazin, in 20 patients, the drug was found to be most effective in subjects sustaining ejaculatio precox. After successful trials with a single application of thioridazin in ejaculatio precox, mesoridazin was administered under double blind conditions with a placebo to 26 patients. The first administered preparation, whether it was mesoridazin or the placebo, produced improvement in 12 patients, while the second had a beneficial effect on the sexual disorder in 7. Thus, the effectiveness of mesoridazin did not differ from that of the placebo. 4 references.

105995 Hrbek, Jan; Komenda, S.; Siroka, A.; Macakova, J. Hnevotinska 3, Olomouc 5, Czechoslovakia On the interaction of scopolamine and physostigmine in man. *Activitas Nervosa Superior (Praha)*. 13(3):200-201, 1971.

The effects of scopolamine and physostigmine on verbal associations in man were studied in 7 series of experiments by means of the laboratory language method, in which the number of correct responses is used as criterion for evaluating the results reached in the process of learning. Physostigmine alone was found to produce some improvement in the learning process. Scopolamine impaired the learning process 50 and 120 minutes after administration of the drug. Impairment 60 minutes after scopolamine administration was shown to be most effectively antagonized by physostigmine, provided that physostigmine had been active for approximately 30 minutes during the experiment. After 120 minutes, physostigmine seemed to potentiate the inhibitory effect of scopolamine on the learning process. 2 references.

105997 Hrbek, J.; Komenda, S.; Macakova, J.; Siroka, A. Hnevotinska 3, Olomouc 5,

**Czechoslovakia** Acute effect of chlorprothixen (5mg), caffeine (200mg) and the combination of both drugs on verbal associations. *Activitas Nervosa Superior (Praha)*. 13(3):207-208, 1971.

In a test of the acute effect of chlorprothixen, caffeine, and their combination on verbal associations, trials were performed before administration and 1 and 2 hours following oral application of the agents to 16 healthy volunteers. The method of artificially conditioned speech connections, consisting of optic, tactile, and acoustic associations, was employed. A degree of improvement in the tested characteristics was observed 1 hour after the administration of chlorprothixen. On the contrary, an impairment of the results was indicated following caffeine application. In experiments carried out after 2 hours, caffeine seemed to improve the followed up criteria to a certain extent. 4 references.

**105999** Frankova, S., Benesova, O. Institute of Human Nutrition, Budejovicka 800, Prague 4, Czechoslovakia The effect of pyridoxine (Encephabol) on behaviour of rats, malnourished in early life. *Activitas Nervosa Superior (Praha)*. 13(3):209-210, 1971.

The effect of pyridoxine derivative on growth rate and behavior was studied in rats suffering from protein and caloric malnutrition. Pyridoxine reduced the symptoms of pathologically altered behavior during the deprivational period, showed a beneficial effect on growth in the malnourished animals, and lowered mortality during the critical period following nutritional deprivation. Pyridoxine has been introduced into pediatric practice, since good therapeutic results have been achieved with mentally retarded children after perinatal hypoxia, encephalitis, and epilepsy. The enhancement of psychic efficiency, decreased agitation, increased vigilance, and emotional harmony were observed in these cases. 7 references.

**106143** Brun, Birgitte; Reisby, Niels. Sortedam Dossering 21 D, DK-2200, Copenhagen N., Denmark Handwriting changes following meprobamate and alcohol: a graphometric-graphological investigation. *Quarterly Journal of Studies on Alcohol*. 32(4):1070-1082, 1971.

The effects of alcohol and drugs on handwriting were investigated through 2 experiments involving university students. Each subject was tested 4 times at intervals of a week after having been given placebo, alcohol plus placebo, meprobamate,

or alcohol plus meprobamate. The investigation was double-blind with regard to placebo-meprobamate but not to alcohol. Order of administration was varied systematically. Separate administration of alcohol and meprobamate caused more handwriting errors than placebo and the combined drugs still more. The effect of alcohol alone was greatest on graphometric measures. Under all drug conditions, the handwriting of subjects with the best integrated personalities was least affected. No single graphological characteristic was found to be drug specific. 26 references.

**106761** Kastin, Abba J.; Miller, Lyle H.; Gonzalez-Barcena, David; Hawley, William D.; Dyster-Aas, Kjell; Schally, Andrew V.; Velasco de Parra, M.Luisa author address not given Psychophysiologic correlates of MSH activity in man. *Physiology and Behavior*. 7(6):893-896, 1971.

Administration of 10mg synthetic alpha melanocyte-stimulating hormone (MSH) to 5 human subjects resulted in a significant increase in the averaged somatosensory cortical evoked response (AER). This change in the amplitude of the somatosensory evoked response was so marked that it could be seen on single trials of the EEG. The AER further increased during attention. Performance on the Benton Visual Retention Test also improved significantly after infusion of MSH. These findings demonstrate extrapigmentary effects of MSH in man and suggest an effect upon the attentive process. 18 references. (Author abstract modified)

**107421** Moreau, J.J. author address not given Hashish and mental illness. New York, Raven Press, 1971. 265 p. \$9.75.

The republication of Moreau's book first issued in 1845 details the relationship of hashish and mental illness. All the varied effects, psychic and physical, are described and categorized for a range of doses up to 16 grams of extract. Eight main symptom groups of hashish intoxication are enumerated, and it is pointed out that psychiatry could profit from the data by comparing hashish intoxication symptoms to those of mentally ill patients, since the psychic effects of the drug will take on all the characteristics of violent insanity if the dose is pushed high enough. A warning is issued against chronic use of hashish, and the major justifications are noted for subjecting it and other psychotomimetic drugs to rigorous scientific research in human subjects.

107592 Sved, S.; Perales, A.; Palaic, D. Institut de Recherches Psychiatriques de Joliette, 1000, boul. Ste-Anne, Joliette, Canada Chlorpromazine metabolism in chronic schizophrenics. *British Journal of Psychiatry (London)*. 119(553):589-596, 1971.

The rate of urinary excretion of chlorpromazine metabolites in 15 chronic schizophrenic patients of both sexes was studied. For this purpose a new sensitive fluorometric micromethod was developed. Following withdrawal of the medication, the metabolites of chlorpromazine disappeared from the urine within 4 weeks. This disappearance coincided with the reappearance of clinical symptoms. After 5 weeks without medication the patients were placed on medication with chlorpromazine at progressively increasing doses to 800mg. The urinary excretion of chlorpromazine metabolites rose in parallel with the medication, and continued to rise for at least 10 days after the medication had been maintained at a constant level. No differences could be seen in the rates of excretion of the metabolites in the urine between resistant and nonresistant patients. It is concluded that the resistance to chlorpromazine therapy cannot be explained on the basis of a difference in metabolism of the drug. 15 references. (Author abstract)

107660 Smith, Stephen E. St.Thomas's Hospital Medical School, London, England Drugs and sleep. *Nursing Times (London)*. 67(40):1248-1249, 1971.

A brief overview of effects of drugs on sleep is presented. Barbiturates and other drugs are noted. It is stressed that one of the most important impacts of hypnotic drugs is reduction of consumption of oxygen by brain tissue.

107994 Yaryura-Tobias, Jose A.; Diamond, Bruce; Merlis, Sidney. Research Department, Central Islip State Hospital, Central Islip, New York Verbal communication with L-dopa treatment. *Nature (London)*. 234(5326):224-225, 1971.

The beneficial effect of L-dopa on verbal communication is discussed in an investigation in which 9 of 10 patients significantly improved with L-dopa treatment. Verbosity in all patients improved to the extent that some spontaneously reported their hallucinations. It is suggested that L-dopa may stimulate the lethargic, withdrawn patient and that since improved verbalization may be helpful in the psychotherapy of noncommunicative patients, a preliminary trial of L-dopa in autistic patients may be successful. 3 references.

108524 King, Carl D. Department of Medicine, University of California, San Diego, La Jolla, California 92037 The pharmacology of rapid eye movement sleep. In: Garattini, S., *Advances in pharmacology and chemotherapy*. New York, Academic Press, 1971. 357 p.(p.1-91), Vol.9.

The pharmacology of rapid eye movement (REM) sleep is discussed in a review and assessment of the research on that subject. Definitions of sleep are offered, along with consideration of phylogeny, sleep concomitants, reasons for sleep, and the generation of sleep. Historical background for REM is presented, followed by phylogeny, signs of REM, normal and abnormal REM sleep, deprivation of it, and theories related to it. The pharmacology of REM deals with fatty acids, steroid and pituitary hormones, central nervous system stimulants, major and minor tranquilizers, hypnotic agents, hallucinogens, opiates, miscellaneous drugs, cholinergics and anticholinergics, and drugs that can interact with the brain's monoamines. 340 references.

108569 Itil, Turan M.; Hsu, William; Klingenberg, Helen; Gannon, Patrick; Holden, Michael. Missouri Institute of Psychiatry, University of Missouri School of Medicine, 5400 Arsenal St., St.Louis, Mo. Effect of thiothixene on digital computer sleep prints of schizophrenic patients. *Behavioral Neuropsychiatry*. 3(7-8):2-7, 1971.

The effect of thiothixene on the all night sleep process was studied in a group of chronic schizophrenic patients using digital computer analysis and automatic classification of the EEG (sleep print method), as well as visual evaluation of the rapid eye movement (REM) mechanism. During low dosage thiothixene treatment the amount of spindle sleep decreased and lighter sleep increased (stimulatory effect), while during high dosage treatment the amount of very deep sleep stages increased (sedative effect). The length of REM periods and the amount of single REM and REM burst activity showed no appreciable changes during thiothixene treatment. Resistant and responsive patients showed different alterations in the sleep process and in the EEG measurements during thiothixene treatment in comparison to the placebo period. 26 references. (Author abstract)

108976 Fischer, Roland; Hill, Richard M. Department of Psychiatry, College of Medicine, Ohio State University Research Foundation, 1314 Kln-

near Road, Columbus, Ohio 43212 Drug-induced distortion of visual space. Final Report, NIMH Grant MH-17633, 1971, 15 p.

Experiments performed by producing visual distortions with drugs and apparatus are reported. It is concluded that the hallucinogenic drug psilocybin exerts an ergotropic arousal induced lowering of the spatial distortion threshold (SDT), or, in other words, the drug interferes with adaptation to optical distortions, but this interference is apparently independent of the rate at which the distortion is presented. Interference is most marked in variable subjects, who are more affected by ergotropic arousal inducing drugs than stable subjects. Trophotropic arousal inducing drugs seem to increase SDT's and thus enhance the phenomenon of adaptation, and do so most strongly in variable subjects. 18 references.

109947 Kaubish, V.K.; Saldina, L.P. Otdel det-skoj neyro-psikhiatrii Leningradskogo NII im. V.M. Bekhtereva, Leningrad, USSR /Treatment of persistent mental changes in children with epilepsy./ O korrektsii stoykikh psikhicheskikh izmeneniy u detey, stradayushchikh epilepsiyey. *Zhurnal nevropatologii i psikhiatrii imeni S.S.Korsakova (Moscow)*. 71(10):1563-1566, 1971.

A total of 50 epileptic patients ranging in age from 2 to 16 years and suffering from persistent mental changes and disturbances of behavior were treated with tegretol and neuleptil. The results indicate that neuleptil is more effective in increased excitability and hyperactivity, especially in younger children. Tegretol yields better results in adolescents with emotional disorders and bradypsychia. 21 references. (Journal abstract modified)

110189 Dunleavy, D.L.F.; MacLean, A.W.; Oswald, I. Department of Psychiatry, University of Edinburgh, Royal Edinburgh Hospital, Edinburgh EH10 5HF, Scotland Debrisoquine, guanethidine, propranolol and human sleep. *Psychopharmacologia (Berlin)*. 21(2):101-110, 1971.

Debrisoquine in dosage of 20-60mg continued for up to 10 days caused suppression of human paradoxical sleep and withdrawal rebound, and also increased intrasleep restlessness. An overdose of debrisoquine 200mg caused suppression of paradoxical sleep and a rebound of over 2 weeks duration. Guanethidine 20-40mg for 21 days did not affect paradoxical sleep but increased intrasleep restlessness and reduced stages 3 plus 4

sleep. Propranolol 120mg had no discernable effect on sleep and did not prevent actions of d-amphetamine sulphate 10mg nor of imipramine 75mg. The findings relate to theories of cerebral noradrenaline in the control of sleep mechanisms. 27 references. (Journal abstract)

111147 Cohen, Nancy J.; Douglas, Virginia L.; Morgenstern, Gert. Department of Psychology, McGill University, Montreal, Canada The effect of methylphenidate on attentive behavior and autonomic activity in hyperactive children. *Psychopharmacologia (Berlin)*. 22(3):282-294, 1971.

The effects of methylphenidate on the performance of 22 hyperactive children on a delayed reaction time (RT) task were investigated using a double blind cross over design. In addition, the influence of the drug on resting basal skin conductance and heart rate, and on the skin conductance component of the orienting response (OR) to nonsignal and signal stimuli were considered. RTs were faster and less variable and task irrelevant motor responses less frequent when hyperactives were receiving methylphenidate than when they were receiving placebo. These results were taken as evidence that the drug improved attention. Methylphenidate increased basal skin conductance and heart rate levels during relaxation and also increased basal conductance during periods of stimulation. Although methylphenidate appeared to produce smaller phasic and tonic ORs, this finding may have resulted from the effect of the drug on basal conductance level rather than on the OR measures per se. 24 references. (Author abstract)

111207 Hurst, Paul M.; Bagley, Sallyann K.; Chubb, Nicholas C.; Ross, Sherman. Institute for Research, 257 S.Pugh Street, State College, Pennsylvania 16801 Rebound from d-amphetamine. *Psychological Reports*. 29(3):1023-1033, 1971.

An experiment was conducted to measure direct and delayed effects on mood and performance of single doses of d-amphetamine sulfate. The purpose was to determine whether or not the drug's initial positive effect on some aspects of behavior is followed by a reversal or rebound below the placebo baseline even when sleep deprivation is controlled. A group of 43 university students, recruited as paid volunteers, were given 10mg/77kg, 15mg/77kg, and a placebo (lactose) on 3 separate occasions in counter-balanced order under double-blind conditions.

Behavioral measures and mood self-ratings were obtained on the day of drug ingestion and at intervals on the following day. Measures were selected from those previously established as sensitive to the initial, direct effects of amphetamine. Although strong initial effects were obtained on some of the measures used, subsequent rebound was either slight or nonexistent. 12 references. (Author abstract)

111215 no author. author address not given  
Hyperkinetic dogs calmed by dexamphetamine.  
*World Medicine (London)*. 7(7):45, 47, 1971.

Experiments with amphetamine conducted on hyperactive, untrainable dogs at Ohio State University College of Medicine, Columbus, Ohio, may shed light on the nature of a widespread disorder of school children, the hyperkinetic syndrome. Although not all hyperkinetic dogs responded favorably to amphetamine treatments, the experiments demonstrated that some dosages of amphetamines can control certain kinds of aggressive behavior in dogs. This discovery may help to elucidate the nature of aggressive behavior and lead to appropriate methods of inhibiting it. It is emphasized that there are important individual differences in reactions to the drug, and there is great danger of indiscriminate, promiscuous use of amphetamines without competent supervision. A dose of amphetamine which may have beneficial effects on a hyperactive dog or child may produce severe hyperexcitability and agitation in a normal dog or human or may aggravate the hyperkinesis in another type of hyperkinetic dog or child.

111517 Wellisch, David K.; Gay, George R.; Wes-son, Donald R.; Smith, David E. University of Houston, Houston, Texas The psychotic heroin addict. *Journal of Psychedelic Drugs*. 4(2):46-49, 1971.

A case history of a psychotic heroin addict is discussed. His presenting difficulties were extremely complex and required close multiple professional involvement and medical supervision. Involving him immediately in a group confrontation group encounter experience, common in many nonmedically oriented programs, would have frightened him to panic proportions, and perhaps accelerated psychotic decompensation. In most instances, psychotic addicts self-select themselves out of such programs because the intense confrontation with groups is too threatening.

Methadone possesses little, if any, antipsychotic effect, unlike morphine or heroin. Psychotic addicts maintained on methadone should also receive antipsychotic medications such as chlorpromazine. With the rapid growth of methadone maintenance as a treatment modality, more clinical research on this issue is urgently needed. 11 references. (Author abstract modified)

111518 Gay, George R.; Way, E. Leong. San Francisco Veterans Administration Hospital, San Francisco, California Some pharmacological perspectives on the opiate narcotics with special consideration of heroin. *Journal of Psychedelic Drugs*. 4(2):31-39, 1971.

The pharmacology of the opiate narcotics, especially heroin, is discussed. Topics include: a history of opium and heroin, the alkaloids of opium, some naturally occurring and semi-synthetic opiates, dosage values, drug abuse legislation since 1906, and dependence on other drugs, especially methadone. It is suggested that through concerted and prolonged efforts at rehabilitation and aftercare and the exploration of innovative techniques, the social stigma of addiction could be reversed and the addict returned to a level of social existence tolerable both to himself and to his community. 21 references.

111608 Giuffre, R.; Gambacorta, D. Viale dell'Università 30, I-00185 Rome, Italy The therapeutic possibilities of L-dopa and amantadine in Parkinsonian patients who have undergone bilateral thalamotomy. *European Neurology (Basel)*. 5(5):311-316, 1971.

The neurologic status in 24 patients with Parkinson's disease 2-11 years after bilateral surgery was studied. Tremor was mild or absent in 17 cases of right sided parkinsonism and in 15 cases of left sided parkinsonism; likewise rigidity in 7 cases of right sided parkinsonism and in 4 cases of left sided parkinsonism; bradykinesia and the deficit of functional autonomy were less responsive. This study confirms that the symptoms left by bilateral stereotaxic thalamotomy can be reduced or eliminated by oral L-dopa and amantadine. This applies not only to bradykinesia, rigidity and tremor but also to the great majority of central autonomic disturbances and to psychic disturbances. The only exception was speech disorders (dysphonia, dysarthria), which thus differ in behavior from the other central autonomic disturbances. 2 references. (Author abstract modified)

**111657 General Practitioner Research Group.** author address not given A psychotropic agent in dyspepsia. *Practitioner (London)*. 207(1242):830-834, 1971.

A double-blind comparison was made between the psychotropic agents opipramol (insidon), a tricyclic drug with anxiolytic and antidepressant properties, propantheline bromide (pro-banthine), an anticholinergic agent, and a combined preparation of opipramol with propantheline. Patients were treated with 1 of these 3 preparations, according to random selection, for a period of 4 weeks. The trial included cases of peptic ulceration and nervous dyspepsia, according to defined criteria. Among relevant patient data recorded were details of previous psychiatric history. The combination of opipramol and propantheline had no therapeutic advantage over the single constituents and had the positive disadvantage of producing a much higher level of side effects necessitating omission of treatment in many instances. A psychotropic agent such as opipramol might be preferred to an anticholinergic such as propantheline, since somewhat better results were recorded with opipramol than with propantheline, particularly in the first week of the trial. Furthermore, less ancillary treatment was required in the patients treated with opipramol alone than in either of the other 2 groups, differences which were statistically significant in the case of added alkalis. (Author abstract modified)

**111660 Wheatley, David.** author address not given Evaluation of psychotropic drugs in general practice. *Practitioner (London)*. 207(1242):827-829, 1971.

The General Practitioner Research Group evaluation of psychotropic drugs is reported. Major conclusions of the study are: although there is a large placebo response in anxiety and depression, better results are obtained with psychotropic drugs and their use is therefore justified in general practice. None of the newer drugs investigated has proved to be significantly better than the 2 standard drugs: namely chlor-diazepoxide in anxiety, and amitriptyline in depression. In neurotic depression, however, a tranquillizer may give results equally as good as those of an antidepressant. Although various factors can affect the response to treatment, this is probably of little clinical significance in predicting response in practice, although doctors' and patients' attitudes are an important factor in this respect. There are many useful indications for

psychotropic drugs in conditions other than psychiatric ones in general practice. The main deficiency in the treatment of neurotic illness in general practice with psychotropic drugs is the slow onset of action of both tranquillizers and antidepressants, the main effect not being established for some 3 or 4 weeks. (Author abstract modified)

**111722 Rainey, H.B.** Medical Division, Tasman Vaccine Laboratory Ltd., New Zealand Fenfluramine. *New Zealand Medical Journal (Dunedin, New Zealand)*. 74(475):415, 1971.

A letter to the editor discusses the terms habit forming, addiction, and dependence, especially in relation to fenfluramine. The fact that fenfluramine has been in clinical use for 8 years and has been taken by over 6 million people for periods ranging from between 4 weeks and 24 months would indicate, at the very worst, a very low dependence potential. This contrasts strongly with the known dependence potential of amphetamines and the relatively high incidence of abuse associated with them. The specific fat mobilizing properties of fenfluramine, together with its anorectic properties give the least undesirable side effects (of the appetite suppressant drugs). In therapeutic doses it does not stimulate the CNS and has a mild sedative action. 4 references.

**111839 Adam, Nilly; Rosner, Burton S.; Hosick, Elizabeth C.; Clark, Donald L.** University of Pennsylvania, Philadelphia, Pennsylvania 19104 Effect of anesthetic drugs on time production and alpha rhythm. *Perception & Psychophysics*. 10(3):133-136, 1971.

The effects of anesthetic drugs on time production and alpha rhythm were investigated. Subjects produced time intervals before and during inhalation of low concentrations of anesthetic gases. The drugs increased time productions by raising the slope of the line representing produced as against objective time. Alterations in time production were not accompanied by consistent changes in alpha rhythm, respiratory rate, heart rate, or body temperature. The findings argue against the alpha rhythm's acting as the biological pendulum for the internal clock. 13 references. (Author abstract modified)

**112085 Martin, Marian.** Department of Psychology, University of Arizona, Tucson, Arizona 85721 Single subject designs for assessment of psychotrop-

ic drug effects in children. *Child Psychiatry and Human Development*. 2(2): 102-115, 1971.

Single subject designs are presented for assessment of psychotropic drug effects in children. The pilot work is concerned with the effects of dextroamphetamine, but it is contended that the methodology or research approach has relevancy for investigations of drug effects in general. In reviewing the medication program of a 6 year old boy, his task performance and behavior, emphasis is placed on the value of the results in illustrating and clarifying the procedures of single subject strategy and the kinds of information such as a strategy produces. Advantages of the methodology include sensitivity, adaptability to a wide range of experimental issues and areas, and applicability to the demands of diagnosis and treatment as well as to those of research. 6 references.

112201 Baekeland, F.; Lundwall, L. Alcoholism Division and Psychology Laboratory, Dept. of Psychiatry, State Univ. of New York Downstate Medical Center, Brooklyn, N.Y. 11203 Effects of methylodopa on sleep patterns in man. *Electroencephalography and Clinical Neurophysiology (Amsterdam)*. 31(3):269-273, 1971.

The effects of methylodopa on sleep patterns in man were explored. Ten normal subjects slept uninterruptedly for 5 consecutive nights in the laboratory. On the 4th day of the experiment they received methylodopa orally, 250mg 3 times daily and 500mg at bedtime. On night 4 there was an increase in rapid eye movement (REM) and a decrease in stage 4 sleep in the first 3 h of sleep. The increase in REM sleep was associated with an increase in REM cycle length, the decrease in stage 4 sleep with a reduction of body movements during stage 4 sleep. These transient changes in REM and stage 4 sleep were maintained on night 5, when there was also evidence of increased arousal and lightening of sleep (increased movement time, wakefulness and stage 1, decreased stage 2 sleep) and of increased activation of the first REM period of the night. It is clear that in the case of methylodopa, the increase in REM density was not simply the results of an increase in REM period lengths (these did not change) but rather must be attributed to effects of reducing serotonin or norepinephrine concentrations or both on brain centers responsible for the phasic components of REM sleep. 58 references. (Author abstract modified)

113748 Ramkhen, V.F. Kaliningradskaya oblast-naya psikhiatricheskaya bol'nitsa No.1, Kaliningrad, USSR /Use of one of the cholinesterase reactivators, dipyroxime, for treatment of mental patients./ Opyt primeniya odnogo iz reaktivatorov kholinesterazy, dipiroksima, dlya lecheniya psikhicheskoi bol'nykh. *Zhurnal nevropatologii i psikhiatrii imeni S.S.Korsakova (Moskva)*. 71(12):1872-1877, 1971.

The psychotropic properties of dipyroxime (TMB-4), a 1,3 bis(N-pyridine-4-aldoxime)-propanedibromide, used in medicine mainly as a reactivator of cholinesterase in intoxication by organophosphorous compounds, were investigated. The drug appeared to be effective in phasic psychoses, developing with affective disorders (manic-depressive psychosis and periodic and shift-like schizophrenia). Dipyroxime also had a euphorizing-stimulating and antidepressive effect. The results of treating 67 patients with this drug are reported. 11 references. (Journal abstract modified)

115398 Oldham, A.J.; Bott M. Department of Health and Social Security, Alexander Fleming House, Elephant and Castle, London, S.E.1, England The management of excitement in a general hospital psychiatric ward by high dosage haloperidol. *Acta Psychiatrica Scandinavica (Kobenhavn)*. 47(4):369-376, 1971.

The use of high doses of haloperidol (20-30mg) for the control of excitement is reported in 124 patients in the psychiatric department of a general hospital. The main advantages of this regime were the rapid and effective control of a high proportion of patients with a wide diagnostic spectrum without excessive sedation or dangerous side effects. It is suggested that haloperidol should receive wider consideration in the routine management of excitement. 23 references. (Author abstract modified)

118619 Feldman, Stephen Lawrence. Rutgers University The State University of New Jersey, New Brunswick, NJ The effects of meprobamate on risk-taking behavior: a test of Wittenborn's hypothesis. (Ph.D. dissertation). *Dissertation Abstracts International*. Ann Arbor, Mich., Univ. M-films, No. 72-17839 HC\$10.00 MF\$4.00 116 p.

The validity of Wittenborn's hypothesis of the psychopharmacological action of meprobamate was tested to determine if the drug interferes with the acquired anticipatory response to aversive stimulation. The effects of meprobamate on risk

taking behavior within a controlled laboratory setting was conducted. Ss were male undergraduates assigned in double-blind fashion to three treatment groups (drug, placebo, and control). Results generally confirmed Wittenborn's hypothesis. Ss who received the drug were less deterred in risky betting by a shock experience, with the greatest decrease in risky betting from Phase 1 to Phase 2 of the experiment being evidenced by those Ss highest in the motive to avoid failure classification. The drug group, in support of the hypothesis, showed no decrease in selection of risky bets from Phase 1 to Phase 2. (Journal abstract modified)

**118690 Talbot, Nathan B.; Kagan, Jerome; Eisenberg, Leon.** no address Behavioral science in pediatric medicine. London, Saunders, 1971. 467 p. L7.25.

The mental development of children is discussed in detail, including comparisons between children raised at home and in institutions. Social and behavioral causes and consequences of disease among children are dealt with, as are the action of stimulants in their application to behavior disorders in children. The belief that these drugs have a useful place in treatment and do not predispose to addiction is emphasized. Other topics discussed, including behavioral genetics, are studied with a scientific approach, complete with a series of practical illustrations.

**120416 Crow, T. J.; Grove-White, I. G.** Dept. of Mental Health, Univ. of Aberdeen, Scotland Differential effect of atropine and hyoscine on human learning capacity. *British Journal of Pharmacology* (London). 43(2):464P, 1971.

The differential effects of hyoscine and atropine on human learning capacity was studied. Three tests of learning capacity were applied to 12 Ss. In order to assess recall after various intervals -- a word list learning with immediate recall (3-30 s), a similar test with delayed recall (60-90 s) and a number-color association test (20 minutes). Subjects receiving hyoscine showed a significant reduction in performance on both the delayed recall and the number - color association tests, but no reduction in the vigilance task, and a much smaller reduction in the immediate recall test. There was no impairment after treatment with atropine. An analysis of the results of the immediate recall test showed that at the shortest in-

tervals (3-12 s) there was no difference between the various treatment groups. 3 references.

**120949 Asakawa, Takeo; Yoshida, Hiroshi.** Department of Pharmacology, Medical School, Osaka University, Kita-ku, Osaka, Japan Studies on the functional role of adenosine 3',5'-monophosphate, histamine, and prostaglandin E1 in the central nervous system. *Japanese Journal of Pharmacology* (Kyoto). 21(5):569-583, 1971.

The effects of intracerebral administration of adenosine 3',5'-monophosphate (cyclic AMP), N6,O2'-dibutyryl adenosine 3',5'-monophosphate (db-cyclic AMP), histamine and prostaglandin-E1 (PGE1) on the behavior of chicks were studied quantitatively and the implication of these compounds in regulating the function of the central nervous system was discussed. Cyclic AMP and db-cyclic AMP induced enhanced locomotor and vocal activities. After their injection the chicks ran about almost continuously at high speed, chirping vigorously. The locomotor activity of the chicks increased more than fivefold. There was no abnormality in their gait and their movements were fully coordinated. No toxic manifestations were observed. Locomotor activity increased with increase in the dose of cyclic AMP or db-cyclic AMP. 5'-AMP did not induce a response like db-cyclic AMP. However, histamine induced nearly the same kind of change in the behavior as that induced by db-cyclic AMP. Locomotor activity increased with increase in the dose of histamine. Imidazole and imidazole acetic acid did not induce a response like histamine. The behavior induced by histamine may be mediated by the formation of cyclic AMP. PGE1 had a sedative effect and locomotor activity decreased with increase in the dose. The behavior induced by histamine was remarkably inhibited by a higher dose of PGE1, but was not inhibited further by a much higher dose of PGE1. The behavior induced by db-cyclic AMP was remarkably inhibited by a much higher dose of PGE1. The possible site of action of PGE1 was discussed. 59 references. (Author abstract modified)

**121321 Furchgott, Ernest.** no address Pharmacological and biophysical agents and behavior. New York, Academic Press, 1971. 402 p. \$14.50.

The first four chapters of this book deal with the possible behavioral toxicity of the following environmental hazards: radiation, nonionizing radiation, anoxia, and ambient temperature. The

last three chapters deal with the behavioral effects of stimulants, sympathomimetic agents, and muscarinic blocking agents, from the point of view of their possible therapeutic use in behavioral disorders. There is also an emphasis on the utilization of drugs having known pharmacologic effects in order to elucidate the role of various chemical systems in behavior. In addition to the text, there is a reference list of over 1200 items, as well as an index of authors and subjects.

123046 Ito, Kazuhito; Ryo, Yakunan. National Chiba Hospital, Japan Effects of oxazolam as a medication before anesthesia. In: *Serenal sogo bun-ken-shu*. Tokyo, Sankyo Co., 1971. 377 p. (p.364-368).

The effect of oxazolam administered before anesthesia was studied. Oxazolam (50mg and 90mg) was administered to 20 patients who were waiting for gastrotomy, surgery of the gall bladder, the kidney, breast cancer, and laparotomy. Doses were given once at bedtime before the day of surgery and once two hours before surgery. A placebo was administered to 40 control patients prior to surgery. Patients treated with a dose of 90mg of oxazolam could sleep longer than those under placebo administration. No significant difference in sleeping hour was observed, however, between patients administered 50mg of oxazolam and those under placebo treatment indicating that at least 90mg is required for the hypnotic effect to manifest itself. All the patients who received oxazolam showed less anxiety toward the surgery than those under placebo treatment. There was no significant difference observed in the pulse rate or respiratory rate although two minor cases of dizziness were observed among those administered 90mg of oxazolam. It is concluded that oxazolam is considered to be a useful medication before anesthesia which is safe even for poor or risky cases.

123352 Imielinski, Kazimierz. ul. Platynowa 8 m.20, Warsaw, Poland /Premature ejaculation and its treatment./ Wczesny wytrysk nasienia i jego leczenie. *Wiadomości Lekarskie (Warszawa)*. 24(24):2275-2279, 1971.

Rational methods of psychotherapy in combination with thioridazine administration were used in the treatment of 171 men suffering from premature ejaculation. A delay in ejaculation of two minutes was achieved in 85% of the subjects, while the result of treatment was unknown in 7%.

In 8%, lack of improvement was due primarily to partner dependent factors such as acute marital conflicts and the impossibility of having sexual intercourse on a regular basis. Psychotherapy combined with the application of thioridazine seems to be the best means of therapy utilized in cases of premature ejaculation thus far. 12 references. (Author abstract)

125254 Connors, C.Keith. Child Development Laboratory, Massachusetts General Hospital, 16 Blossom St., Boston, MA 02114 The effect of stimulant drugs on human figure drawings in children with minimal brain dysfunction. *Psychopharmacologia (Berlin)*. 19(4):329-333, 1971.

Two studies are reported in which stimulant drugs (methylphenidate and dextroamphetamine) are administered to children with minimal brain dysfunction. The drugs produce highly significant improvement in the total raw scores of the figure drawings, compared with placebo. Scores presumed to measure social maturity or social interest were not affected by the drug treatments. It is suggested that the drugs probably change figure drawings by means of their influence on attention span or the child's need to perform well in the drawing task. Inconsistencies between results of different studies are accounted for by sample heterogeneity which becomes apparent when cluster analysis is employed to refine diagnosis. 9 references. (Author abstract)

125574 Chokroverty, S.; Rubino, F.A. no address Treatment of status epilepticus with intravenous chlorthalidoxepoxide (Librium). *Electroencephalography and Clinical Neurophysiology (Amsterdam)*. 31(3):292, 1971.

At a meeting of the American Electroencephalographic Society, a study of 30 men, 26-79-years-old in status epilepticus treated with chlorthalidoxepoxide intravenously, is reported. EEG, EKG, blood pressure, and respiration were monitored during administration of the drug to the series. In 23 patients chlorthalidoxepoxide terminated the clinical seizure without recurrence in the next 24 hours. The overall response appeared to be better in patients with chronic neurological diseases and in those with generalized status epilepticus than in patients with acute disorders and partial status epilepticus. It is concluded that chlorthalidoxepoxide by intravenous route is an effective alternative or an additional drug for the treatment of a potentially serious condition such as status epilepticus. (Journal abstract modified)

125772 Brandt, Th.; Baum, G.; Bock, W.J.; Brandt, B.; Viland, B. Neurochirurgische Klinik des Klinikums Essen, Ruhr-Universität Bochum, 43 Essen, Germany /Mental states following premedication with neuroleptics and analgesics./ Psychische Zustandsbilder unter Neuroleptanalgesiepremedikation mit Neuroleptika und Analgetika. *Pharmakopsychiatrie Neuropsychopharmakologie (Stuttgart)*. 4(5):239-253, 1971.

Two groups of patients were treated prior to surgical anesthesia with either dehydrobenzperidol (DHB) or thalamonal (DHB and fentanyl) and the effects were analyzed by means of objective psychological measurements. With both substances a lowering of blood pressure was found. An obvious decrease in blood pressure resulted when patients came to an upright position, and was accompanied by marked tachycardia. The psychological measurements showed a significant reduction in visual and auditory memory span, concentration, and sensorimotor coordination. Phenomenologically all patients noticed relaxing neuroleptic effects. Moreover, thalamonal produced an euphoric effect, caused by its morphinelike component fentanyl. Reported somatic side effects were blurred vision, dryness of mouth, and a transitory feeling of oppression. In addition, thalamonal caused sensations of nausea and vertigo in some cases. Both treatments acted to help patients refrain from anxiety feelings before surgery, but thalamonal seemed to be even more effective. 20 references. (Author abstract)

125921 Mucher, Hans. 4 Dusseldorf, Bergische Landstr.57, Germany /Learning strategy and its transfer under the influence of pharmacological stress./ Lernstrategie und ihr Transfer unter dem Einfluss pharmakologischer Belastung. *Psychologische Beiträge (Meisenheim/Glau, Germany)*. 13(3):440-478, 1971.

In a matching experiment, achievement decreased under the influence of diethyl barbiturate. Pharmacological stress in the initial phase led to negative transfer effects in the second experiment, whereas absence of stress in the first experiment helped to prevent failure under stress in subsequent experiments. The analysis of subjective observations showed the predominance of planning behavior in the successful group. Influence of opiates in the first experiment made it impossible for the subjects to recognize the given task. Further analysis led to the assumption that doses of barbiturate were the releasing factors of failure, of affective frustration reactions and of

disordered thinking. 44 references. (Journal abstract)

126039 Yamamoto, Katsumi; Yamuchi, Yojo; Naganuma, Rokulchi; Akiyama, Toshio; Akinoto, Tatsuo. Department of Neuropsychiatry, Kurume University School of Medicine, Japan Easy method of hypnotic treatment with intravenous Diazepam. *Journal of Japanese Psychosomatic Society (Tokyo)*. 11(4):49-54, 1971.

The effect of hypnotic treatment with intravenous injection of Diazepam given to 10 mentally disturbed patients and three normal persons is presented. A comparison was made with hypnosis without the drug and hypnosis with a placebo. No consideration of the level of consciousness is necessary in hypnosis with Diazepam, while it is necessary in the narcohypnosis with barbiturate derivatives. Intravenous injection of Diazepam induced a deep trance state within a short time and significantly lowered the level of consciousness as compared to usual hypnosis. It is concluded that hypnosis with intravenous injection of Diazepam makes hypnotherapy and hypnoanalysis easier. 24 references. (Author abstract modified)

## 15 TOXICOLOGY AND SIDE EFFECTS

074239 Sherman, William B. 155 E. 55th St., New York, N. Y. 10022 Drug allergy. *Southern Medical Journal*. 64(1):22-26, 1971

Among the diseases of medical progress, sensitization to drugs has attained a prominent place. This phenomenon may be serious in causing prolonged morbidity and even death. In the immunologic process, the drug may act as a haptene or as a complete antigen. 7 references. (Author abstract modified)

074828 Conyers, R. A. J.; Goldsmith, L. E. Sydney Hospital, G.P.O. Box 1614, Sydney, N.S.W. 2001, Australia A case of organophosphorus-induced psychosis. *Medical Journal of Australia (Sydney)*. 1(1):27-29, 1971.

A case is described of acute confusional psychosis induced by poisoning with Diazinone, an organophosphorus pesticide. The patient a farmhand aged 43 years, was brought to the casualty department with apparent amnesia and strange behavior. Clinical evidence was obtained that appeared to be adequate to confirm the agent responsible for the psychosis as the organophosphorus pesticide. 14 references. (Author abstract modified)

077909 Woody, James N.; London, Will L.; Wilbanks, George D. Department of Medicine, Children's Hospital Medical Center, 300 Longwood Avenue, Boston, Massachusetts 02115 Lithium toxicity in a newborn. *Pediatrics*. 47(1):94-96, 1971.

The use of lithium salts in the treatment of affective neurosis has recently become popular. There have been no reports of neonatal lithium toxicity although it is embryopathic in other species. A newborn whose mother received lithium during the last month of pregnancy is presented. The infant manifested a 10 day course of cyanosis and lethargy with serum lithium levels in the adult toxic range. It is suggested lithium be used with caution during pregnancy. 15 references. (author abstract)

077912 Nordenberg, A.; Delisle, G.; Izukawa, T. Hospital for Sick Children, 555 University Avenue, Toronto 101, Canada Cardiac arrhythmia in a child due to chloral hydrate ingestion. *Pediatrics*. 47(1):134-135, 1971.

The recommended hypnotic dose of chloral hydrate (150 to 600mg for a child) depresses the cerebral hemisphere and induces sleep without significant change in respiration, blood pressure, or heart rate. The first case history of serious cardiac arrhythmia caused by ingestion of a toxic dose of chloral hydrate in a child is reported. On admission 1 hr and 15 min after ingesting 1500mg standard chloral hydrate solution, the 2.3yr old male patient showed multiple multifocal premature ventricular beats in the ECG. One and three quarters hr after ingestion of the drug the ECG showed a normal sinus rhythm which was maintained throughout the patient's 5 day stay in hospital. 8 references.

078152 No author. Author address not given Managing the pregnant addict and her baby. *Medical World News*. 12(19):20-22, 1971.

The problems of caring for the pregnant addict are complicated by the lack of prenatal care with consequent difficulties at child birth. A study of delivery and followup on pregnant addicts is presented in which some 35 pregnant women and their babies were studied. Of these, 18 were picked up in time to receive prenatal care and methadone maintenance, the other 17 arrived at the hospital already in labor, and left immediately after childbirth and recovery, taking their babies with them. In order to keep close contact with the patient, a full time social worker was assigned to this role, and other 'team workers' (graduate stu-

dents and fellows) were pressed into service. These workers cultivated a noncritical, nonpunitive attitude toward the patient. The methadone was given in a total dose of 80mg for blocking the heroin action. Detoxification in these patients is extremely difficult. It was found that untreated addicted women had babies with extremely low birth weights, whereas all but 3 of the treated mothers gave birth to normal babies. It was estimated that 50% to 75% of all babies born to addict mothers require treatment for withdrawal symptoms (80% within the first 24 hrs after birth). Control of symptoms by medication is described.

082031 Grovè, Vernon Eugene, Jr. Austin, Texas Common drugs can cause psychiatric illness. *Texas Medicine*. 67(3):30-32, 1970.

Examples are given of various common drugs which can cause psychiatric disturbances even when used in appropriate doses. Among antibiotics, depression has been produced by sulfathiazole, confusion and insomnia by griseofulvin and euphoria by isoniazid. Corticosteroids have produced nervousness and depression, while indocine has induced depersonalization, depression, confusion, coma and psychosis. Some analgesics (Talwin, Norgesic, Darvon) have been found to cause confusion, hallucinations and euphoria. Among diuretics and cardiac drugs, Aldomet has produced depression and psychotic states, phenobarbital excitement and euphoria; reserpine has caused depression while the use of thiazides has led to agitation and lethargy. Although the list is not comprehensive, physicians should be alert to the potential that many drugs have to cause psychiatric disturbances even though the incidence of complications is low.

082810 Greenburg, Jack. Author address not given Side effects of L-Dopa treatment. *Pennsylvania Medicine*. 74(4):55-56, 1971.

Side-effects resulting from L-Dopa in the treatment of Parkinson's disease were studied in a group of 84 hospital patients (43 men, 41 women). Starting dosages were 500mg and 250mg twice daily, respectively, for men and women. Nausea was the most common side-effect, occurring in 44 patients. Dyskinesia was seen in 36 patients of whom 10 showed movements of the mouth and tongue only and the other 26 were likewise affected but with additional limb movements. Vomiting was experienced by 30 patients, episodes of confusion by 15, hallucinations by 22

and orthostatic hypotension by 10 (with only 2 symptomatic, in one of whom drug treatment was discontinued because of syncopal attacks on standing). No consistently abnormal laboratory tests were seen, and no EEG differences between pretreatment and posttreatment tests. Severity of side-effects was proportional to high initial dosage. ECG's showed no arrhythmias. Sudden deaths occurred in 2 patients during treatment: one with proved esophageal carcinoma and the other of unknown cause. Aphrodisiac effects, probably not primary, were stated in 2% of the cases. 4 references.

**082822 Kessell, A.; Marriott, P. F.; Graves, G. D.** Dandenong Psychiatric Centre, Cleeland Street, Dandenong 3175, Australia Methaqualone: efficacy as a hypnotic and side-effects. *Medical Journal of Australia (Sydney)* 1(10):531-534, 1971.

A report is made on methaqualone, both alone and in combination with diphenhydramine, as to side-effects. Results are reported for 76 patients who had a depressive illness. Epistaxis was found in 11.1% with the drug alone and in 13.1% when in combination with diphenhydramine. Dryness of the mouth was reported in 25% when used alone and in 23.7% of the patients when used in combination, with tongue changes occurring in 13.9% and 15.7% respectively. Menstrual disturbances, depersonalization and constipation were also noted in a lower percentage of the subjects. These manifestations disappeared within 2 to 3 days following cessation of treatment and methaqualone alone and in combination was found to produce satisfactory sleep, with no advantage seen to either form of treatment. 10 references.

**082829 Lee, Richard V.** Department of Internal Medicine, Yale University School of Medicine, New Haven, Connecticut Vasopressin inhibition by lithium. *New England Journal of Medicine* 284(12):674-675, 1971.

In a letter to the editor, the author comments on letters published in the Journal by G. W. Viol and by Francisco Ruiz-Maza. The case cited by Viol and Smith is the fourth recently reported case of lithium induced vasopressin resistant polyuria. About one third the patients receiving lithium experience polydipsia and polyuria although they may not complain of their symptoms unless specifically asked by their physicians. Evidence suggests that lithium may interfere with the adenylyl cyclase - cyclic AMP system, as ob-

served in thyroid tissue in vitro and in rats with lithium induced polyuria. 2 references.

**082830 Ruiz-Maza, Francisco.** Department of Medicine, Johns Hopkins University, Baltimore, Maryland Vasopressin inhibition by lithium. *New England Journal of Medicine* 284(12):674, 1971.

In a letter to the editor concerning a case of a diabetes -insipidus - like syndrome unresponsive to exogenous vasopressin in a patient receiving lithium carbonate therapy, the author calls attention to the fact that lithium chloride infusions have been shown to produce a consistent inhibition to the action of exogenous vasopressin. It thus appears that lithium ions have a specific vasopressin inhibitory activity, although the mechanisms of this inhibition are unknown. 2 references.

**082831 Viol, G. W.; Smith, E. K. M.** Nephrology Service, McMaster University, Faculty of Medicine, Hamilton, Canada Vasopressin inhibition by lithium. *New England Journal of Medicine* 284(12):674, 1971.

A letter to the editor reports the case of a 54 year old woman with polyuria and polydipsia of 2.5 years duration. She had manic-depressive psychosis of 20 years duration, and lithium carbonate, 300mg 4 times daily was begun 2.5 years before consultation. Therapy with lithium was stopped, and phenothiazine therapy begun; plasma lithium levels, previously 1.0 to 1.5 mEq per liter, fell to zero. There was slow but steady clinical remission of the polyuria and polydipsia. This case represents a further example of a lithium induced renal tubular defect, manifested by defective water handling and possible defective urinary acidification. An abnormal glucose tolerance test was also found.

**083087 No author.** Author address not given Hypnotics and hangovers. *Lancet (London)* No. 7702:744, 1971.

The use of hypnotic drugs such as quinalbarbitone, nitrazepam, or amylobarbitone to induce rapid sleep has been shown by several investigators to result occasionally in a prolonged hangover upon waking, manifested by impaired psychomotor performance. The normal intake of central stimulants, such as caffeine, is insufficient to reverse the hypnotic induced depressant effects which may last for up to 12 hours. Most hypnotic drugs produce a reduction in REM stage sleep,

and many EEG changes which follow withdrawal of these drugs may be due to a rebound increase in paradoxical sleep. Patients engaged in skilled and dangerous tasks or who drive automobiles should be warned of the delayed depressant effect of the hypnotics. 5 references.

085408 Tec, Leon. Norwalk, Connecticut An additional observation on methylphenidate in hyperactive children. *American Journal of Psychiatry*. 127(10):1424, 1971.

Two observations concerning methylphenidate in the treatment of hyperactive children are noted in a letter to the editor. Adverse reactions can be avoided by reducing the dosage from 10mg to 5mg. Sometimes the drug is not as effective, even with higher dosage, after it has been discontinued for a few months and is then resumed.

085460 Ananth, J. V.; Ban, T. A.; Lehmann, H. E.; Rizvi, F. A. McGill University, Montreal, Quebec, Canada An adverse reaction unit: results and functions. *American Journal of Psychiatry*. 127(10):1339-1344, 1971.

Adverse reactions reported among patients in a 1,552 bed psychiatric hospital during 1 year are reviewed in detail. Most commonly encountered were neurological, psychiatric, and gastrointestinal reactions. The function of the adverse reaction unit has been extended from epidemiological surveys to various areas of psychopharmacological practice, and the unit is also being utilized increasingly for teaching and for consultation. 9 references. (Author abstract)

085692 Paulson, George W. Division of Neurology, Department of Medicine, Ohio State University Hospitals, Columbus, Ohio 43210 Use of pyridoxine in chorea. *American Journal of Psychiatry*. 127(8):1091-1092, 1971.

The use of pyridoxine in Huntington's disease and tardive dyskinesias is reported. Dyskinesias secondary to L-dopa often appear similar to Huntington's disease and to the tardive dyskinesias that are associated with prolonged use of phenothiazines. Pyridoxine can reverse dyskinesias and the benefits of L-dopa. A group of patients with Huntington's disease or tardive dyskinesias was treated with pyridoxine, but no change in their movements was observed. It is concluded that pyridoxine does not ameliorate these 2 conditions. 6 references. (Journal abstract modified)

085705 Cramer, Bertrand. 10, rue Charles Bonnet, Geneva, Switzerland Delusion of pregnancy in a girl with drug-induced lactation. *American Journal of Psychiatry*. 127(7):960-963, 1971.

The case of a psychotic girl who developed galactorrhea and a delusion of pregnancy while taking chlorpromazine is reported. The delusion developed as a result of the interaction of the side effects of chlorpromazine and the psychological makeup characteristic of pseudocyesis patients. Galactorrhea and breast changes are often found among patients taking high doses of chlorpromazine and conflicts about pregnancy are frequent; thus delusions of pregnancy may often occur among female institutionalized patients treated with chlorpromazine. 20 references. (Journal abstract)

086166 Beiser, Ernest M. Springfield State Hospital, Sykesville, Maryland Lithium carbonate treatment in the manic-depressive and predictability of outcome of treatment. *Maryland State Medical Journal*. 20(5):66-67, 1971.

Although lithium carbonate has been used successfully in the treatment of manic-depressive patients (84.8% in 46 patients), the treatment failures represent a special challenge to the psychotherapist. The predictability of clinical outcome by measuring the amount of lithium excreted in the urine or by the control of other electrolytes in the body during the introduction of lithium has not been established. The margin between the therapeutic and toxic dose of lithium is very narrow and clinical supervision must be exercised; blood tests should be made at least every other day. The therapeutic level of lithium should never exceed 1.7mEq/liter, and kept at 1.5mEq preferably. The dose should be reduced to a maintenance dose immediately following the disappearance of manic symptoms, with blood levels around 0.6 to 1.0mEq/l. 7 references.

086511 Murphy, K. J. Princess Alexandra Hospital, 4102 Woolloongabba, Brisbane, Queensland, Australia Pyrexia and raised serum-creatinine-phosphokinase after amylobarbitone. *Lancet* (London). No. 7702:758-759, 1971.

In a letter to the editor, a case is reported which suggests that barbiturates can cause hyperpyrexia. The patient was admitted in coma due to an overdose of amylobarbitone in addition to alcohol. He had previously been treated in a psychiatric hospital following attempted suicide by slashing his wrists. An abnormally high serum

creatin phosphokinase level of 540 I.U. was found (normal is equal to 5 to 50 I. U.), which came down to 264 I.U. in 36 hr. The muscle damage may have been due to the patient's state of rigidity. Hyperthermia can occur in the absence of primary muscle disease and fatal hyperpyrexia has also resulted from combinations of phenelzine with imipramine, and with desipramine and chlorpromazine. Recommended treatment is to combat acidosis, cool the patient, and give oxygen. 10 references.

**086926** Genest, P.; Villeneuve, A. Department of Pathology, Laval University, Quebec 10, Canada. Lithium, chromosomes, and mitotic index. *Lancet (London)*. No. 7709:1132, 1971.

In a letter to the editor, the author comments that evidence on the teratogenicity of lithium salts in human beings is conflicting. A preliminary study of chromosome and mitotic index on 19 manic-depressive patients receiving lithium compared to normal controls is reported. There was no difference between lithium treated patients and 19 normal controls with regard to aneuploid cells and to chromosome abnormalities. However, a significant decrease of the mitotic index was found in the lithium treated patients. 5 references.

**086927** Schou, Mogens; Amdisen, Amdl. Psychopharmacology Research Unit, Aarhus University Institute of Psychiatry, Risskov, Denmark. Lithium teratogenicity. *Lancet (London)*. No. 7709:1132, 1971.

In a letter to the editor, the author comments on a report that not all rat strains are susceptible to the teratogenic effects of lithium. To date a register exists of 60 children born of mothers who received lithium treatment during the first trimester at least of pregnancy. Three children had malformations and 1 child had Down's syndrome; the others were normal. Although the malformation frequency is of the same order as that found in the general population, it is necessary to bear in mind the possible teratogenic effects of lithium when treating women of childbearing age. 6 references.

**087019** Wesolkowski, Jacek; Osinski, Zbigniew. ul. Partyzantow 2/4 Klinika Psychiatryczna Instytutu Psychoneurologicznego, Pruszkow, Poland /Case report of an unusual course of hepato-lenticular degeneration./ Przypadek zwyrodnienia wtrobowo-soczewkowego o szczególnym przebiegu. *Psychiatria Polska (Gdansk)*. 2(5):239-242, 1971.

An unusual pathological course complicated by psychotic episodes and the simultaneous absence of the characteristic neurological symptoms of hepatic lenticular degeneration resulted in a very delayed diagnosis of the true pathology in a 49 year old psychotic. The patient exhibited suicidal tendencies in his earlier years followed by brief periods of improvement which were repeatedly interrupted by psychic episodes diagnosed as drug depressive syndromes, somatogenic psychosis, neurasthenia, and hypomaniacal and subdepressive states. The patient was intermittently hospitalized over a period of 15 years and it was only after more than 10 years that the neurological symptoms became manifest. Since the patient had received prolonged ambulatory treatment with neuroleptics such as chlorpromazine, levomepromazine and haloperidol, the extrapyramidal symptoms were mistakenly interpreted solely as side-effects of the drugs. 7 references.

**087021** Chlopicki, Krzysztof; Pawlowicz, Anna. Klinika Psychiatryczna, Lubliniec, ul. Grunwaldzka 48, Poland /Secondary glutethimide addiction in endogenous atypical psychoses./ Wtorna toksykomania glimidowa w przebiegu atypowych psychoz endogennych. *Psychiatria Polska (Gdansk)*. 2(5):137-140, 1971.

Two female patients ages 34 and 46 with endogenous atypical psychosis became addicted to glutethimide as a result of prolonged treatment with the drug. Because of constant headaches, one of the patients had taken up to 7 tablets of glutethimide daily for a period of 7 years. Within 5 years she had signs of atypical endogenous depression with suicidal attempts, autism, dereism, anxiety and delusions of persecution. The patient's intellectual capacity also deteriorated as a result of chronic intoxication. The second patient had 3 episodes of a depressive anxiety syndrome with auditory hallucinations at 10 year intervals beginning at age 20. The drug was prescribed as a soporific during the last episode and secondary intoxication appeared simultaneously with an improvement in the psychic condition. The patient had an epileptic seizure which was regarded as a withdrawal symptom. 11 references.

**087136** Pogady, J.; Turcek, M.; Cerven, J.; Hudakova, G.; Muncnerova, L. Sibirsk 1, Bratislava, Czechoslovakia /A contribution to etiopathogenesis of disulfiramalcoholic psychoses./ Prispevek k etiopatogeneze disulfiramovych psychoz.

*Ceskoslovenska Psychiatrie (Praha)*. 67(1):8-13, 1971.

Acid base balance was followed in 4 groups of patients before, during and after the session. The first group was given 250g of 40% brandy on empty stomach which had to be drunk in the course of 20 to 30 minutes. The second group was subject to usual disulfiramalcoholic reaction. The third group was given 1g of disulfiram daily for 10 to 14 days. In the fourth group every patient received 100mg of chlorpromazine i.v. The total number of participants was 38. Disulfiram leads to acidosis, which is not due to CO<sub>2</sub> increase but to that of other nonvolatile acids (e.g. acetates, lactates, pyruvates, propionates). Prolonged administration of disulfiram suffocates the organism, as shown by decreasing PO<sub>2</sub> and O<sub>2</sub> saturation levels. Next to the mentioned group high acidosis occurs in patients in the course of disulfiramalcoholic reaction because of the increased CO<sub>2</sub> level in blood. It is of interest that acid base changes during the shift to alkalosis are similar in groups receiving alcohol and those receiving chlorpromazine i.v. The authors discuss eventual participation of increased nonvolatile organic acids in the development of Antabuse psychoses involving acidosis and offer further experimental solutions. 7 references. (author abstract modified)

087150 Ridley, C. M. Whittington Hospital, London N.19, England Bullous lesions in nitrazepam overdose. *British Medical Journal (London)*. No. 5765:281, 1971.

A case report is given of a 24 year old woman admitted to the hospital deeply unconscious with tense bullae, some hemorrhagic, affecting the left side of her face and upper torso. Upon recovering consciousness, the patient stated she had taken 100 tablets nitrazepam. It is stressed that presence of bullae in a comatose patient are not necessarily an indication that barbiturates are the cause of the coma. The bullae represent a reaction to pressure and hypoxia in the skin of the unconscious patient. 5 references.

087189 Medvecký, J.; Durindová, Z. Psychiatrická klinika Lékařské, nam. Osloboditelů 18, Czechoslovakia /Pharmacologically induced psychoses./ Toxické lékové psychozy. *Ceskoslovenska Psychiatrie (Praha)*. 67(2):98-103, 1971.

The authors report on the psychopathologic picture of 14 patients with toxic drug induced psychoses after STM, TH-1314 Cycloserine, an-

tiasthmatic drugs, atropin poisoning, Pericent, Fenmetrazine, Dexfenmetrazine and after the euphoric effect of Alnagon. Hallucinatory activity was prevalent. Vision illusions, psychomotoric agitation, depersonalization, paranoid delusion, anxious tension and vegetative symptomatology were present. Depression states were less pronounced. One patient presented a manic mood with megalomaniac delusions. Paradox depression after central stimulating drugs as seen in 2 patients is not very common. Prognosis of these psychoses was fairly good. Phenothiazines were therapeutically most effective. Convulsion therapy was not needed. All psychoses induced by toxic drugs had an acute character. 10 references. (author abstract)

087239 Vereecken, J. L. T. M.; Tanghe, A. Psychiatric Hospital 'Sancta Maria', Noordwijkerhout, Holland Long-acting phenothiazines in schizophrenia. *British Medical Journal (London)*. No. 5758:403, 1971.

In a letter to the editor, the author states that one aspect of depot-neuroleptics is the duration of antipsychotic action; another aspect is their side-effect liability. Extrapyramidal side-effects occur less frequently with fluspirilene than with fluphenazine enanthate. The author has recently found that patients receiving other long-acting neuroleptics also suffer from more extrapyramidal side-effects than patients receiving fluspirilene. Therefore as far as side-effects are concerned, new depot-neuroleptics should be compared to fluspirilene. 1 reference.

087268 Kane, Francis J., Jr.; Moore, Louis P. Department of Psychiatry, University of North Carolina School of Medicine, Chapel Hill, North Carolina 27514 Hepatotoxicity occurring with thioridazine therapy. *Southern Medical Journal*. 64(5):573, 1971.

A clinical phenomenon suggestive of hepatotoxicity from thioridazine is presented in the case report of a 13 year old boy with behavioral problems and suicidal ideation, treated with thioridazine (100mg t.i.d. and 200mg h.s.) and trihexyphenidyl hydrochloride, 1mg b.i.d. Medication was discontinued due to a petechial rash; total bilirubin was 2.2mg with a direct bilirubin of 1.1mg, which decreased to 1.7mg and 0.4mg/100ml. Alkaline phosphatase one week after the rash appeared was 8.9nitrophenol units. These results suggest transient interference with liver function. 5 references.

**088145** Crane, George E. Spring Grove State Hospital, Baltimore, Maryland 21228 Persistence of neurological symptoms due to neuroleptic drugs. *American Journal of Psychiatry*. 127(10):1407-1410, 1971.

Prolonged use of neuroleptic drugs is believed by many clinicians to result in symptoms of tardive dyskinesia and pseudoparkinsonism, but doubts have been expressed as to the irreversibility of the conditions. To obtain information on the persistence of neurological symptoms due to neuroleptic drugs, the extrapyramidal symptoms attributable to the drugs are examined. Thirty nine patients with tardive dyskinesia and/or pseudoparkinsonism did not receive neuroleptics for 6 to 24 months. At the end of this time, 36 patients manifested symptoms consistent with tardive dyskinesia. In 5 of 12 patients who had pseudoparkinsonism, alone or with tardive dyskinesia, parkinsonian symptoms persisted for 6 months or longer. 12 references. (Journal abstract modified)

**088147** Lewis, Wade H. Psychiatric and Rehabilitation Center, Villa Rosa, 5115 Medical Drive, San Antonio, Texas 78229 Iatrogenic psychotic depressive reaction in hypertensive patients. *American Journal of Psychiatry*. 127(10):1416-1417, 1971.

The progress of iatrogenic psychotic depressive reaction is described as it occurs in hypertensive patients whose medication has produced hyponatremia and low sodium levels. Psychiatrists are cautioned against prescribing drugs like imipramine, because these make the patient increase his fluid intake, decreasing his electrolyte and sodium levels and producing severe physical and mental reactions. (Journal abstract modified)

**088152** Flemenbaum, Abraham; Gunby, Bjorn. Psychiatry and Psychopharmacology Services, University of Minnesota Hospital, Mayo Memorial Building, Minneapolis, Minnesota 55455 Ethchlorvynol (Placidyl) abuse and withdrawal (review of clinical picture and report of 2 cases). *Diseases of the Nervous System*. 32(3):188-192, 1971.

A review of 15 cases of ethchlorvynol (Placidyl) abuse and/or withdrawal as reported in the literature is presented together with 2 case studies. The objectives are to call attention to the serious acute toxicity reports and to attempt to clarify the clinical picture of chronic abuse and withdrawal of ethchlorvynol. Ethchlorvynol is 1 of the synthetic sedatives introduced as an improvement over barbiturates, and was believed to be non-

habit forming. The medical literature seems to indicate clearly that not only is the safety margin of this drug narrower than that of barbiturates, but it may also produce habituation at proportionately smaller doses and even when used for comparatively short periods of time. Frequently reported symptoms were ataxia, incoordination, slurred speech, diplopia, blurred vision, peripheral neuritis, tremor, and reflex changes. At least in 3 of the cases bilateral scotomata were reported. The acute withdrawal may produce schizophrenic like symptoms but the presence of confusion and other findings of delirium should facilitate the diagnosis. There is evidence of alcohol potentiating side effects of ethchlorvynol. Besides, it is interesting to notice that the picture of withdrawal after chronic ethchlorvynol ingestion in the cases reviewed also appears as clinically undistinguishable from that of delirium tremens in alcohol withdrawal. 16 references. (Author abstract modified)

**088201** Crane, George E.; Naranjo, Evelyn R. Medical Research, Spring Grove State Hospital, Catonsville, Md. 21228 Motor disorders induced by neuroleptics: a proposed new classification. *Archives of General Psychiatry*. 24(2):179-184, 1971.

A comprehensive classification of motor disorders attributed to neuroleptic drugs is proposed. Some manifestations resemble those occurring in known diseases of the central nervous system; other abnormalities are typical effects of drugs with neuroleptic action. A factor analysis on the most frequently occurring motor disorders generated the following symptom clusters: 1) tremor, bradykinesia, rigidity, and attendant symptoms; 2) buccolingual masticatory dyskinesia, astasia, dyskinesia of the lower extremities and posture in extension; and 3) dyskinesia of the upper extremities and postural disorder. The classification and the factors were used to study the effects of drug withdrawal on a sample of patients over a 6 month period. Symptoms of cluster 1 decreased while those of cluster 2 increased in severity. In a control group receiving standard drugs during a comparable period, no significant changes were noted. 16 references. (Author abstract)

**088503** Micks, Don W. Department of Preventive Medicine and Community Health, The University of Texas Medical Branch, Galveston, Texas Ac-

cidental and self-induced poisoning in Galveston County 1958-1969. *Texas Medicine*. 67(2):50-55, 1971.

A review is presented of the morbidity and mortality in a Texas county caused by chemical and drug poisoning in the period 1958 to 1969. Three significant findings emerged from the study: (1) drugs were involved in poisonings approximately twice as often in 1968 as in 1963; (2) psychotropic agents (specifically tranquilizers) surpassed aspirin as leading drugs incriminated; and (3) the rate of self-induced poisoning involving drugs is increasing. The annual poisoning rate, obtained from the records of 4 local hospitals as well as from the personal files of private physicians showed a gradual increase from 1963 to 1968. The age of 2 years and the period 20 to 29 years proved to have the highest incidence of poisoning. The leading categories of poisoning agents were internal medicines (55%), cleaning agents, pesticides and gases and vapors. Aspirin led the list of leading chemicals and drugs, followed by Valium and Chlorox. Self-induced poisoning is more common in the 13 to 39 year groups with predominance in the female. The desirability of a statewide reporting system is suggested. 3 references.

088512 Duffy, Barry. Children's Department, Prince Henry and Prince of Wales Hospital, High and Avoca Streets, Randwick, N.S.W. 2031, Australia Acute phenothiazine intoxication in children. *Medical Journal of Australia (Sydney)*. 1(13):676-678, 1971.

The object of this report is to call attention to neurological syndromes induced by drugs of the phenothiazine group, which are frequently mistaken for tetanus or encephalitis. Information concerning 30 children suffering acute neurological symptoms and signs as a complication of phenothiazine treatment is presented. In the majority of cases excessive dosage was used, but it is pointed out that fever and dehydration predisposed to the development of toxic phenomena. Treatment with benztropine was given to some of these children, and rapid improvement was obtained. In the majority of cases, however, no treatment was necessary other than cessation of phenothiazine therapy. 7 references. (author abstract modified)

088629 Sansoy, Orhan M.; Roy, Anita Naylor; Shields, Lora M. Las Vegas Medical Center, Las

Vegas, New Mexico Anabolic action and side effects of oxandrolone in 34 mental patients. *Geriatrics*. 26(4):139-143, 1971.

The Anavar brand of oxandrolone was given for two months to 34 patients at the New Mexico State Hospital. The anabolic action of doses of 15 and 20mg daily was evidenced by a weight gain of between 2 and 40 lb in 28 patients, a sense of increased well-being, disappearance of premature ventricular contractions in 5 patients, a total protein increase in 14 patients and significant increase in protein means by the fourth week, an elevation in serum triglycerides within the normal range, an improvement in the bony system of 3 patients with osteomyelitis, and an elevation of hemoglobin. Anavar caused some degree of hepatic derangement manifested by increased Bromsulphalein retention (above normal in 12 patients) and serum glutamic-oxalacetic transaminase (above normal in 18 patients). No changes were apparent in other hepatic indexes, however, and renal function was not altered. 9 references. (author abstract)

088986 Williams, Redford B.; Sherter, Carl. Section of Psychobiology, National Institutes of Health, Bethesda, Maryland Cardiac complications of tricyclic antidepressant therapy. *Annals of Internal Medicine*. 74(3):395-398, 1971.

Two similar cases of unresponsive cardiac standstill secondary to toxicity of tricyclic antidepressants are reported. One is a case of deliberate overdose, and the other represents toxicity of therapeutic doses in a patient 'pretreated' with a catecholamine depleting agent (guanethidine). Tricyclicamine antidepressants block the uptake of catecholamines by the heart, allowing enzymatic degradation and further catecholamine depletion. This group of antidepressants should therefore be contraindicated in patients receiving drugs that deplete cardiac catecholamines. 26 references. (author abstract)

089080 Shamsie, S. J.; Barriga, C. Department of Psychiatry, McGill University, Montreal, Quebec, Canada The hazards of use of monoamine oxidase inhibitors in disturbed adolescents. *Canadian Medical Association Journal (Toronto)*. 104(8):715, 1971.

A case report is presented to illustrate the hazards of using MAO inhibitors in acting out, depressed adolescents, who by thenature of their psychopathology are unlikely to observe the necessary precautions in using these drugs. A 15-

yr-old girl had been admitted to the adolescent unit of a hospital with a 2 year history of truancy, running away from home and being involved with a gang of delinquents. During her 1 year stay in the unit her delinquent behavior improved but she became progressively depressed. She was started on phenelzine 15mg t.i.d., 6 weeks before she took dextromethorphan. At the time she was also receiving thioridazine 25mg t.i.d. and 15mg h.s., procyclidine 5mg b.i.d. and metronidazole suppositories for a vaginal discharge. She died of adrenergic crisis after taking the Romilar CF capsules 'for kicks'. 4 references.

**089134** Corvol, P.; Lagrue, R.; Marteau, R.; Miliez, P. Hôpital Broussais, 96, rue Didot, F 75 Paris 14e, France /Problems raised in the treatment of neurological and neuropsychiatric manifestations in systemic lupus erythematosus./ *Problemes poses par le traitement des manifestations neurologiques et neuropsychiques du lupus erythemateux dissemine. Semaine des Hopitaux de (Paris).* 47(20):1275-1280, 1971.

Neuropsychiatric manifestations in disseminated lupus erythematosus (D.L.E.) and treatment with corticosteroids is discussed. Epileptic crises are the most frequent complications, others being encephalomenigitic, motor deficiencies, cerebellar syndrome and choreic movements. Psychic manifestations associated with D.L.E. are acute psychotic manifestations, such as an akinesia which may appear as a catatonic syndrome; and anxiety states with emotional lability resembling chronic schizophrenia. At times the psychiatric manifestations appear in the active period of the disease, either at the start or slightly after the other clinical features, and more often in the developmental stage of the disease. Corticotherapy, at times, appears to induce psychiatric problems, most often manifested in hypomanic episodes, and sometimes in confusional states. The remarkable effect of A.C.T.H. is illustrated in a patient who developed a depressive psychosis as a result of corticotherapy, whose symptoms worsened on discontinuation of the treatment, leading to coma. When the corticotherapy was started again after 6 days, the effect on both the lupus and on the mental troubles was markedly ameliorative. The interruption of corticotherapy is contraindicated in the treatment of lupus. 25 references.

**089151** Sybiraka, H.; Gajdzinska, H. Zakład Medycyny Sadowej, Śląskiej Akademii Medycznej, Zabrze, Poland /Determination of the components of a combined preparation of glutethimide, amobarbital and promethazine in autopsy material from several suicides. Bestimmung der Bestandteile eines Kombinationspräparates aus Glutethimid, Amobarbital und Promethazin im Sektionsmaterial einiger Selbstmordfälle. *Archiv für Toxikologie (Berlin).* 27(3/4):226-232, 1971.

Tardyl is a 2 phase hypnotic containing in 1 tablet 0.125gm glutethimide, 0.125gm amobarbital and 0.0075gm promethazine. The glutethimide effects a short deep sleep at the outset, the amobarbital, in the second phase of sleep, produces a slow and longer sleep period, and promethazine reinforces both actions and produces a restful sleep when administered in therapeutic doses. The toxic effects with overdosage were observed in 7 persons who committed suicide by these means. Drug contents were determined in tissue which was extracted by means of ether and chloroform at different pH values and separated by thin layer chromatography. For quantitative determinations, a spectrophotometric method in the ultraviolet range was used for amobarbital, a photolorimetric method in the visible range for glutethimide, and an ion exchange paper chromatographic method for promethazine. The results are tabulated for each case in terms of the amount of each drug found in the stomach, intestines, liver, kidneys and spleen. 11 references. (author abstract modified)

**089179** Painter, Joseph C.; Shanor, Sydney P.; Winek, Charles L. St. Francis General Hospital, New Castle, Pennsylvania Nutmeg poisoning -- a case report. *Clinical Toxicology.* 4(1):1-4, 1971.

A case of nutmeg poisoning is described in a 21 year old man. His chief complaint on admission was vomiting with abdominal pain following the ingestion of nutmeg mixed with orange juice. The patient admitted having had psychogenic and psychedelic experiences in the past as a result of nutmeg ingestion. The clinical evaluation described the patient able to hear but unwilling to respond to questioning. After 2 hours' sleep the patient awoke terrified; he complained of marked dizziness and remained drowsy and restless for an entire day. His urinary pH was 8.0, his white blood count was 12,600, and his blood pressure was 150/100 (normally 112/82) with a pulse of 144/min. He was treated with nasal oxygen,

atrimethobenzamide suppository (for the vomiting) and chlorpromazine. 3 references.

**089180** Decker, Walter J.; Treuting, John J. William Beaumont General Hospital, El Paso, Texas Spot tests for rapid diagnosis of poisoning. *Clinical Toxicology*. 4(1):89-97, 1971.

A list of drugs and poisons most commonly encountered, and spot tests for their detection are presented. Some of the drugs listed which are also used in therapeutic preparations are: amphetamine, barbiturates, chloral hydrate, codeine, desipramine, ephedrine, glucose, heroin, imipramine, eprobamate, morphine, phenacetin, phenothiazines, salicylates, and sympathomimetic amines, as well as other drugs. The results of these spot tests must be evaluated cautiously, since false positives are apt to occur in inexperienced hands. Positive and negative controls ought to be tested along with the unknown substance. 6 references.

**089189** Baron, J. B; Morel, P.; Rivoalan, Y. Centre Psychiatrique Saint-Anne, Begard, France Maître de recherche CNRS, neuro-ophtalmologiste CPSA, 1 rue Cabanis, Paris 14e, France Long term evolution of the side effect lens opacities induced by chlorpromazine prolonged therapy. *Agressologie (Paris)*. 12(1):57-60, 1971.

Ocular side-effects as a result of chlorpromazine in doses of 200mg to 600mg daily over a period of 9 to 10 years are described in 2 different psychiatric cases. It appears likely that the changes in therapy, rather than its initiation caused the undesirable changes. Another factor in the ocular changes is attributed to the quantity and quality of sunlight and its effects on lens transparency. 4 references.

**089212** Heitmann, R. Universitäts Nervenkl. 9 Josef Stelzmann Strasse, 5 Cologne 41, Germany /The unconscious patient from the neurological viewpoint./ Der bewusste Kranke aus neurologischer Sicht. *Medizinische Welt (Stuttgart)*. 22(16):649-653, 1971.

Unconsciousness must always be regarded as a sign of serious changes in the brain whereby the degree of unconsciousness is simultaneously a measure of the patient's danger. Examination of the patient's vital functions and care for the respiration and circulation maintenance are mandatory in the case of the unconscious patient. Only after this care should the patient's history

and diagnostic procedure follow. Of the patients with unconsciousness on admission (to the University Clinic), the majority are those resulting from drug intoxication including barbiturates, barbiturate free hypnotics, thymoleptics, opiates, and alkyl phosphates. Very often alcohol acting as a means of potentiation is found together with barbiturates and other hypnotics. Primary brain damage may also lead to unconsciousness as in cases of meningitis and encephalitis, or in cardiac arrest which affects the cerebral circulation. 14 references. (author abstract modified)

**089327** Eve, Norman O. Roussel Laboratories Ltd., Roussel House, Wembley Park, Middlesex HA9 0NF, England Methaqualone: efficacy as a hypnotic and side effects. *Medical Journal of Australia (Sydney)*. 71(12):1033-1034, 1971.

In a letter to the editor, a study on the effects of methaqualone is criticized. It is reported that the study was not of methaqualone alone, nor of methaqualone in combination with diphenhydramine hydrochloride (as the investigators claimed to have studied), but of a combination of one of these drugs with a variety of psychotropic agents. The side-effects reported may be due to drug interaction and have not been found by any other investigators who have published trials of Mandrax. Another point criticized is that the publications by Burke and Mahadevan and of Haider were concerned with Mandrax and not, as stated, with methaqualone. The only significant fact emerging from the study by Kessel and coworkers is that the methaqualone - diphenhydramine compound was less likely to produce drowsiness on awakening than methaqualone alone. 8 references.

**089329** Hussain, M. Z.; Murphy, J. Psychiatric Department, Province of Saskatchewan, Union Hospital, Moose Jaw, Saskatchewan, Canada Psychosis induced by oral contraception. *Canadian Medical Association Journal (Toronto)*. 104(11):984, 986, 1971.

A case of schizophreniform psychosis induced by oral contraception is reported in a 25 year old white married woman who had had no previous psychiatric disability. She was prescribed Miniquen (mestranol 0.1mg, ethynodiol diacetate 0.5mg). Soon afterwards she began to show signs of nervousness and disturbed thinking which became worse in her contacts at home and at a job. When she was seen for psychiatric evaluation

(about 3 months after the oral contraceptive was begun) she appeared to have auditory hallucinations, was incoherent and expressed paranoid ideas. The contraceptive pill was immediately withdrawn and pyridoxine was prescribed (because of a diabetic condition). She continued on phenothiazine medication and was finally given a short course of ECT, and discharged improved the following month. It is suggested that oral contraceptives are contraindicated in pyridoxine deficiency.

**089343** Norris, A. S.; Bastron, R. D. Author address not given The use of ketamine hydrochloride. *Journal of the Iowa Medical Society*. 61(4):230-231, 1971.

Ketamine hydrochloride (Ketaject, Ketalar) has been useful in handling severely burned children and has many advantages with a rapid onset of action and provides good analgesia. However, hallucinations have been reported in adults and supposedly not in children due to this drug. Over 80% of unmedicated adults experienced hallucinations or illusions, and 3 patients had 'flashbacks' as late as 3 months after receiving a single dose of ketamine. Hallucinations also occurred in children in the present investigation, one 11 year old boy hallucinated for more than 13 hours after ketamine. EEG's recorded on volunteers receiving a single dose were interpreted as consistent with metabolically or toxically induced changes in cellular metabolism. Nonmedical use should be disallowed.

**089349** Hussain, M. A.; Murphy, J. Psychiatric Department, Department of Public Health, Province of Saskatchewan, Union Hospital, Moose Jaw, Saskatchewan, Canada Thioridazine-induced toxic psychosis. *Canadian Medical Association Journal* (Toronto). 104(10):884, 1971.

A letter to the editor presents the case of a 25 year old man with a history of drug addiction and alcoholism and who showed signs of anxiety and depression was prescribed thioridazine (50mg twice a day). After an attempt at suicide by taking 1200mg thioridazine, gastric lavage was performed and some of the ingested substance recovered. About one hour later he became hyperactive and was hallucinating. He was given 100mg im.m. chlorthalidopoxide and his condition gradually improved. When discharged 2 days later, he showed no residual effects. Other cases of confusional states developing during phenothiazine administration are mentioned. 4 references.

**089350** Beszterczey, A.; Pecknold, J. C. Douglas Hospital, 6875 LaSalle Boulevard, Verdun, Quebec, Canada Toxic psychosis induced by high-dosage chlorpromazine therapy. *Canadian Medical Association Journal* (Toronto). 104(10):884, 889, 1971.

In a letter to the editor, toxic psychosis induced by high dosage of chlorpromazine is presented. A 21 year old male student who was hospitalized with a diagnosis of acute schizophrenia was given orally 1200mg chlorpromazine daily in divided doses to control episodes of unpredictable rage. Treatment with 300mg/day by thioridazine 6 months earlier with a similar diagnosis had been well tolerated. On the fourth day, chlorpromazine was supplemented with benzotropine. On the following day the patient developed confusion with hallucinations and all medication was stopped. Visual hallucinations ceased 24 hours later although the patient remained disoriented for a further 24 hours. Chlorpromazine treatment (400mg/day) was then reinstituted together with trihexylphenidyl (2mg b.i.d.) with no further ill effects. It is assumed that the initial high dosage of chlorpromazine was the likely cause of the toxic psychosis.

**089531** O'Connell, Ralph A. Psychiatry Department, Research Division, St. Vincent's Hospital and Medical Center, New York, New York Lithium's site of action: clues from side effects. *Comprehensive Psychiatry*. 12(3):224-229, 1971.

Side effects of lithium involving decreased thyroid function, weight gain, leukocytosis, polydipsia, polyuria, and cutaneous reactions are described which occurred in an intensively followed group of 44 lithium patients. These side effects were significant, but generally not serious, and did not outweigh the therapeutic advantages of lithium. A hypothesis proposed which relates the observed therapeutic and side effects of lithium to a common site of action, the neuroendocrine axis, comprising hypothalamic and related subcortical systems. 21 references. (Author abstract)

**089818** Lynn, Edward J.; Satloff, Aaron; Tinling, David C. College of Human Medicine, Michigan State University, East Lansing, Michigan 48823 Mania and the use of lithium: a three-year study. *American Journal of Psychiatry*. 127(9):1176-1180, 1971.

Focus is on the problem of differential diagnosis between mania and schizophrenia and also

upon the toxic aspects of lithium therapy. An approach to the diagnostic evaluation of the psychotic patient is urged that recognizes several positive criteria for mania and schizophrenia and relates them to the temporal sequence of the diagnostic process. Diagnostic confusion regarding delirium in patients on lithium and the problems of weekend coverage and supervision by personnel unfamiliar with lithium treatment are seen as special problems that must be dealt with to prevent severe toxic reactions. 11 references. (Author abstract)

**090662 Richter, Ralph W.; Challenor, Yasoma B.; Pearson, John; Kagen, Lawrence J.; Hamilton, Lewis L.; Ramsey, William H.** Departments of Neurology and Medicine, Harlem Hospital Center, Columbia University College of Physicians and Surgeons, New York, N. Y. Acute myoglobinuria associated with heroin addiction. *Journal of the American Medical Association*. 216(7):1172-1176, 1971.

Acute rhabdomyolysis was observed as a new complication of intravenous heroin adulterant injections in 4 men. Clinical features included generalized muscle tenderness, edema, and profound weakness. Myoglobinuria was detected by a specific immunological method which measured levels up to 3.25mg/ml. Serum myoglobin levels as high as 0.310mg/ml were found, with serum creatine phosphokinase levels up to 14000 units. Needle electromyography showed myopathic motor unit potentials in all muscles tested, most marked proximally. Histologic examination demonstrated acute myolysis, and in 1 case an unusual picture consistent with tubular aggregates. Renal failure occurred in 2 patients, 1 of whom survived. Resolution of weakness varied from 2 to 6 weeks. The process recurred in 1 patient following a subsequent heroin injection. Every attempt must be made to emphasize the occurrence of this disorder as a warning in drug treatment programs in order to reduce the likelihood of further exposure to heroin. 16 references. (journal abstract modified)

**090761 Vulliamy, David.** Dorset County Hospital, Princes Street, Dorchester, Dorset, England Unwanted effects of anticonvulsant drugs. *Developmental Medicine and Child Neurology (London)*. 13(1):107-109, 1971.

Those who treat epileptic children should be aware of the unwanted effects of prolonged ad-

ministration of heavy doses of anticonvulsive drugs. Certain recognized toxic effects of phenobarbitone, primidone, phenytoin are usually accepted as overdosage effects. Lately, however, there has been an increasing awareness of possible long-term effects on the central nervous system, and an interest in their relationship to the low serum folate values which are so commonly found. It is difficult to assess the role of these drugs in deterioration of mental function, partially because of the nature of the illness. There is disagreement, but it is believed by some that all 3 commonly used anticonvulsant drugs produce metabolic changes which result in much more widespread dysfunction of the nervous system than is usually thought. Phenytoin has received most of the blame. Therapeutic dosage levels are discussed. It is well established now that a disturbance of folic acid (and possibly vitamin B12) metabolism can be detected in the majority of drug treated epileptics if treatment has been prolonged. Factors affecting blood levels of the anticonvulsants are reviewed, and another metabolic hazard of the drugs -- effect of vitamin D utilization -- is noted. 13 references.

**090765 Jarvik, Lissy F.; Bishun, Nutan P.; Bleiweiss, Herman; Kato, Takashi; Morallshvili, Emilia.** Department of Medical Genetics, New York State Psychiatric Institute, 722 West 168th Street, New York, New York 10032 Chromosome examinations in patients on lithium carbonate. *Archives of General Psychiatry*. 24(2):166-168, 1971.

Because of a report in the literature that 3 patients on lithium carbonate showed chromosome damage in excess of that seen in controls, peripheral blood cultures were set up from 16 manic-depressive patients who had taken lithium carbonate for periods of 2 weeks to over 2 years (7 of them for 1 year or more), from 4 manic-depressive patients on placebo, and from 10 control subjects. Even though the highest average frequency of breaks occurred in the lithium carbonate group (3.3%), the value corresponded to the means (1.9% to 4.3%) generally observed in the laboratory and the difference between the lithium carbonate group and the present controls (1.5% breaks) did not reach statistical significance. 10 references. (Author abstract modified)

**092693 Hussain, M. Z.** Union Hospital, Moose Jaw, Province of Saskatchewan, Canada Toxic

psychosis induced by Asthma-Dor. *Canadian Medical Association Journal (Toronto)*. 104(4):326, 1971.

Two cases of acute toxic psychosis induced by Asthma-Dor, an antiasthmatic drug procurable over the counter in drug stores, are reported in this letter to the editor. The 2 male patients, aged 15 and 16 years, ingested the drug which is available in powder form, fumes of which are intended to be inhaled to relieve asthma attacks. Hallucinatory and other reactions are described. Chlor-diazepoxide was administered and remission obtained in 48 hours.

093822 Reynolds, E. H. National Hospital for Nervous Diseases, Queen Square, London, W.C.1, England Anticonvulsant drugs, folic acid metabolism, fit frequency and psychiatric illness. *Psychiatra, Neurologia, Neurochirurgia (Amsterdam)*. 74(2):167-174, 1971.

The research literature on the neuropsychiatric implications of disturbed folic acid and vitamin B12 metabolism in epilepsy has been reviewed. Substantial agreement was found on the high incidence of low serum folate levels in drug treated epileptic patients, and that this may be reflected in changes in red cell and CSF folate values. The administration of folic acid has been shown to cause a decrease in serum vitamin B12 levels in most patients. Some evidence, derived from serum, red cell, and CSF studies points to an association between disturbed folate metabolism and various psychiatric disorders such as apathy and depression. Folate deficiency may also lead to dementia over many years, and interaction with many other factors (fits, brain damage, psychological, social) may precipitate or aggravate other types of mental disorders. 44 references.

095311 Lucas, Alexander R.; Weiss, Morris. 951 E. Lafayette, Detroit, Michigan 48207 Methylphenidate hallucinosis. *Journal of the American Medical Association*. 217(8):1079-1081, 1971.

Adverse reactions to methylphenidate hydrochloride, often prescribed for hyperactive children, are described. Use of psychopharmacologic agents in disturbed children is widespread and reporting of undesirable side effects can be expected to increase. In some children, methylphenidate is remarkably effective in depressing hyperactivity; others may fail to respond and, in most, there are either no or minimal side effects. The cases recounted here serve to illustrate psychotic behavioral reactions

to methylphenidate in two children after short-term administration of very modest doses, and in an adolescent who took an excess of medication after long-term use of the drug in therapeutic dosage. In one case, a 6 year old girl became highly excited and manifested extreme regression and withdrawal associated with bizarre mannerisms. A 10 year old boy who received a total of only 10 mg of methylphenidate began hallucinating after 5 days; an excess of the drug taken by a 15 year old girl also caused hallucinations. 9 references.

095426 Martin, William E. Box 276, Mayo Memorial Hospital, Minneapolis, Minnesota 55455 Adverse reactions during treatment of Parkinson's disease with levodopa. *Journal of the American Medical Association*. 216(12):1979-1983, 1971.

Fifty six of 60 patients with Parkinson's disease treated with levodopa for periods up to 19 months experienced adverse reactions. These are defined as probably related or possibly related to levodopa or probably coincidental, and their possible mechanisms and management are reviewed. Although adverse reactions are frequent and severe, in most patients they can be satisfactorily controlled and treatment can be continued. 14 references. (journal abstract).

095621 Savage, P. P. E.; Wilkinson, V. Oakley Hospital, Auckland, New Zealand Reaction time in psychiatric patients: pilot study. *New Zealand Medical Journal (Dunedin, New Zealand)*. 73(468):285-288, 1971.

In a sample of 322 psychiatric patients and 168 staff members at a mental hospital, a pilot study demonstrated that speed of reaction was most slowed by phenothiazine drugs and less by benzodiazepines and tricyclic antidepressants. Paranoid schizophrenics had statistically faster reaction times than nonparanoid schizophrenics. The effects of age and the complexity of tasks were shown to correlate with previous studies. The findings should be considered in regard to patients on medication driving motor vehicles. 1 reference. (author abstract)

095743 Hillel, Jean M. Institut de Recherches Psychiatriques, 1000 boul. Sainte-Anne, Hopital Saint-Charles, Joliette, Canada /Psychopharmacotherapy in pedopsychiatry: paradoxical responses and encountered difficulties./ Psychopharmacotherapie en pedopsychiatrie:

reponses paradoxales et difficultes rencontrees. *Laval Medical (Quebec)*. 42(6):582-584, 1971.

A study was conducted to establish a succinct inventory of paradoxical responses and difficulties encountered in the clinical administration of psychotropic drugs to children. The child's sensitivity to drugs, termed paradoxical response, is directly attributable to the immature neural structures, especially the reticulated formation of the cerebral trunk. The principal topics discussed are: (1) paradoxical responses involving hypnotics and stimulants; (2) unexpected responses from neuroleptics; (3) other variables and difficulties which interfere with observed results; and (4) commentary on a research study in Canada involving 42 hospitalized patients, 688 outpatients, and inpatient doses of psychotropic drugs. The strong recommendation is made that more attention be given to the study of psychotropic drugs in pedopsychiatry during the training of psychiatrists. 16 references.

096114 Rozberg, G. Rue Victor Allard 196, B-1180 Brussels, Belgium /'Delire a deux' in the course of methylphenidate addiction./ *Delire a deux au cours d'une toxicomanie au methylphenidate. Acta Psychiatrica Belgica (Bruxelles)*. 71(2):76-97, 1971.

A case of delire a deux occurring in the course of a double addiction to methylphenidate is discussed. After a study of the personalities of the husband and wife involved, the dynamics of the couple and of the intoxication and its psychotic prolongation are dealt with. Based upon recent data on the neurophysiology and neurochemistry of the mesencephalon, a cause and effect relationship between the psychotic illnesses and the intoxication are suggested. Founded upon the concepts of Henri Ey, a holistic and organodynamic view of the problem of the specificity of the personality and of the drug are reached. 30 references. (journal abstract modified)

097553 Moccetti, T.; Lichtlen, P.; Albert, H.; Meier, E.; Imbach, P. Medizinischen Universitätsklinik Zurich, Zurich, Switzerland /Cardiotoxicity of tricyclic antidepressants: phenothiazine and imipramine derivatives./ *Kardiotoxizität der trizyklischen Antidepressiva: (Phenothiazine und Imipraminderivate). Schweizerische Medizinische Wochenschrift (Basel)*. 101(1):1-10, 1971.

Tricyclic antidepressants (phenothiazines and imipramine type drugs) show a specific cardiotoxicity. The cardiovascular complications occurring in 3 patients after suicidal poisoning and in 1 patient after chronic cumulative administration of imipramine and phenothiazines are described. The cardiopramine and phenothiazines are described. The cardiotoxicity of tricyclic antidepressants, electrocardiographic abnormalities, hypotension, coronary complications and heart failure are discussed. The value of sodium diphenylhydantoin and sodium lactate in the treatment of arrhythmias and conduction disturbances induced by these drugs is analyzed. In spite of this treatment, the mortality of acute poisoning remains very high. 70 references. (Journal abstract modified)

098142 Vollum, Dorothy I.; Parkes, J. D.; Doyle, D. King's College Hospital, London S. E. 5, England Livedo reticularis during amantadine treatment. *British Medical Journal*. 5762(2):627-628, 1971.

An investigation of livedo reticularis is reported. This common side effect of treatment with amantadine for Parkinson's disease was studied in 40 patients. It is suggested that the livedo is a physiological response provoked by depletion of catecholamine stores in peripheral nerve terminals. The absence of any evidence of drug induced systemic disease during amantadine treatment is in keeping with a physiological rather than a pathological cause of livedo.

098272 Harder, A.; Modestin, J.; Steiner, H. CH-4915, St. Urban, Switzerland /Course of body temperature in neuroleptic injection treatments: statistical evaluation of retrospective data./ *Verlauf der Körpertemperatur bei Neuroleptika-Injektionskuren: Statistische Auswertung eines retrospektiv erhobenen Materials. Schweizerische Medizinische Wochenschrift (Basel)*. 101(22):828-831, 1971.

The temperature charts of 132 patients undergoing an approximately 10 day course of parenteral treatment with chlorpromazine, levomepromazine, clotiapine, chlorprothixene, clopenthixole or haloperidol, sometimes with additional therapy (antiparkinson, electric shock) were studied retrospectively. For each treatment with the major tranquilizers specific temperature trends were established by variance analyses. During clopenthixole and levomepromazine treatment in particular, pronounced rises in temperature were recorded, as well as under chlorpromazine and

chlorprothixene, though to a lesser extent. Treatment with haloperidol and clonidine, does not appear to have any marked effect on thermoregulation. Therapy additional to major tranquilizers generally tends to raise the temperature. 1 reference. (Author abstract)

**098690** Warnes, H.; Ananth, J. V. Department of Psychiatry, St. Mary's Hospital, 3830 Lacombe Avenue, Montreal 249, Quebec, Canada Complications of psychotropic medications in high dosage. *Psychiatric Quarterly*. 45(1):87-91, 1971.

Some of the serious medical complications occurring in the course of treatment with various preparations of psychotropic drugs are described along with appropriate case reports. The case reports of serious adverse reactions associated with the administration of various psychotropic drugs alone or in combination illustrate the importance of keeping in mind the possibility of such adverse reactions during high dosage drug therapy. Medical management of such complications is discussed. 15 references.

**098772** Hooper, A. C. Department of Anatomy, University College, Dublin 2, Ireland Fenfluramine and dreaming. *British Medical Journal (London)*. 3(5769):305, 1971.

A comment is offered on the possible relationship between fenfluramine therapy and dreaming, with 2 separate cases cited which suggest the connection. It is noted that such cases and the effect of fenfluramine on sleep patterns reported by Lewis indicate the advisability of studying dream self-rating during fenfluramine therapy.

**098921** Schildkraut, Joseph J.; Watson, Robert; Draskoczy, Paul R.; Hartmann, Ernest. Neuropsychopharmacology Laboratory, Massachusetts Mental Health Center, Boston, Mass. Amphetamine withdrawal: depression and M.H.P.G. excretion. *Lancet (London)*. 7722(2):485-486, 1971.

Findings on changes in affective state and 3-methoxy-4-hydroxyphenylglycol (MHPG) excretion which accompanied the withdrawal of amphetamines in 4 patients who had regularly self-administered high doses (50-400mg daily) are reported. Upon abrupt withdrawal, the hypomanic state rapidly subsided and patients began to show evidence of depression within 24-48 hours after the withdrawal of the drug. The depression reached its peak 48-72 hours after withdrawal and

then decreased substantially but not entirely over the course of the next 24-48 hours. Urinary excretion of MHPG was raised during the administration of amphetamines, declined to a low point 24-60 hours after withdrawal and then progressively increased. The changes in excretion of MHPG occurred with, or possibly preceded, the clinical changes. The increase in MHPG excretion during administration of amphetamines suggests that in man as in animals, these drugs may increase noradrenaline available to receptors in brain. The decrease on withdrawal may be associated with a decrease in noradrenaline at receptor sites. The catecholamine hypothesis of affective disorders proposes that some, if not all, depressions may be associated with an absolute or relative deficiency of noradrenaline or other catecholamines at critical receptor sites in brain, mania with an excess of these monoamines. The data reported are compatible with this hypothesis. 19 references.

**099120** Kennedy, P. F.; Hershen, H. I.; McGuire, R. J. Medical Research Council Unit for Epidemiological Studies in Psychiatry, University Department of Psychiatry, Edinburgh 10, Scotland Extrapyramidal disorders after prolonged phenothiazine therapy. *British Journal of Psychiatry (London)*. 118(546):509-518, 1971.

A systematic clinical study of certain defined types of extrapyramidal motor phenomena was carried out in a population of 63 chronic hospitalized schizophrenics who had been treated with trifluoperazine for periods ranging from 3 to 13 years. Tremor was found in 88%, muscular rigidity in 68%, choreiform dyskinesia in 56%, and motor restlessness in 38%. The clinical data were submitted to factor analysis in order to identify the principal patterns of motor disorder affecting these patients. Sex, age, state of dentition, as well as phenothiazine and antiparkinsonism drug treatment variables were then studied in relation to the distributions of the motor disorders suggested by factor analysis. Factor 1, accounting for 32.5% of the variance, represented restlessness of the trunk and limbs. The distribution of this disorder in the population was not affected by any personal and treatment variables studied. Factor 2 (19.1% of the variance) represented tremor and rigidity of the upper limbs and facial musculature. This disorder was significantly more common in older patients. Factor 3 was bipolar and contributed 13% to the variance. It suggested a disorder of the tongue, lips and jaw characterized by choreiform

movements at one pole negatively correlated with tremor at the other pole. Chorea was more common and tremor less common in women than in men. For men, though not women, chorea was associated with a low total dose of phenothiazine and tremor with a high total dose. The usefulness of this method and the implications of results are discussed, particularly with respect to choreiform disorders which may be irreversible. 17 references. (Author abstract modified)

**099170 Hussain, M. Z.; Harinath, M.** Psychiatric Department, Union Hospital, Moose Jaw, Saskatchewan, Canada Monoamine oxidase inhibitors. *Canadian Medical Association Journal (Toronto)*. 105(5):452-453, 1971.

Critical comment is made to expressed optimism regarding the effectiveness of monoamine oxidase inhibitors as antidepressants. It is stressed that caution should be exercised in using these compounds in light of findings relating organic and genetic complications, as well as some other serious side effects to their use. The superiority of these drugs has not been demonstrated over the tricyclic group of antidepressants, and their administration requires careful supervision during all stages of therapy. 4 references.

**099518 Brazelton, T. Berry.** Harvard Medical School, Boston, Massachusetts Influence of perinatal drugs on the behavior of the neonate. In: *Hellmuth, J., Exceptional infant: studies in abnormalities*. New York, Brunner/Mazel, 1971. 529 p.(p.419-431). Vol.2.

The expression of the genotype recently has been shown to be heavily influenced by prenatal factors which affect the cellular structures of the fetus in a lasting fashion, and produce effects which later environmental influences cannot overcome. There seem to be 'critical periods' for influencing cellular development and its potential for expression in the developing fetus. The formula for behavioral phenotype at birth becomes genotype X environment, and the first important environment is intrauterine. Numerous examples from recent literature of intrauterine influences are described. Various studies are cited which have conclusively demonstrated subtle but transient behavior impairments in neonates from maternal medication, in particular the depressant drugs. The importance of reevaluating the routine use of drugs prenatally and perinatally is stressed. 38 references.

**099682 Carlson, Bruce E.; Sadoff, Robert L.** Norristown, Pa. Thioridazine in schizophrenia. *Journal of the American Medical Association*. 212(12):1705, 1971.

Disturbances in sexual functioning caused by thioridazine treatment, primarily in schizophrenics, are briefly discussed. It is well known that the drug, because of its adrenolytic activity, inhibits or prevents ejaculation in some patients and has also been shown to cause impotency in males and delay of orgasm in both men and women. Since schizophrenics, generally, are most disturbed by any changes in bodily function, particularly the sexual function, caution should be exercised in using drugs with this effect. The problem is also often difficult to uncover because many patients are unwilling to disclose information regarding changes in sexual behavior. It is therefore important for physicians to be aware of these effects and forewarn the patients of the possibility of their occurrence before thioridazine treatment is begun.

**099748 Greenwell, Ben E. Baudette,** Minnesota Lithium. *Minnesota Medicine*. 54(10):821, 1971.

This letter criticizes 'Laboratory Letter' in the June, 1971 issue of 'Minnesota Medicine'. Two points are made: (1) in the Fieve and Platman study, the lack of baseline scans on their patients raised doubts as to the validity of results. It is interesting that in a later article the same authors reported a similar incidence of goiter in 13 patients treated with imipramine (no lithium). While it is true that lithium may be goiterogenic, the incidence of thyroid abnormalities in lithium-treated subjects probably is closer to that reported by Schou et al, 12 out of a series of 330, and (2) fortunately, none of the marketed dosage forms of lithium carbonate, including flesh colored capsules, contain erythrosine dye or iodine. The capsules studied by Doctor Haas were 'clear pink' and did contain significant amounts of the dye. That type of capsule, in the beginning, was selected by numerous clinical investigators, but was never considered for marketing. These comments were not meant to alter the conclusion of the original article. 3 references.

**099761 Pashayan, H.; Pruzansky, D.; Pruzansky, S.** Center for Craniofacial Anomalies, University of Illinois at the Medical Center, P.O.Box 6998, Chicago, Illinois 60680 Are anticonvulsants teratogenic? *Lancet (London)*. 2(7726):702-703, 1971.

Four cases of children with cleft lip and palate, born to mothers on anticonvulsive drugs, are described. This data adds to the cumulative clinical and experimental evidence pointing to the teratogenicity of such drugs. Admittedly, the case against the anticonvulsant agents is weakened by the history of facial clefts in one family, and by the birth of normal siblings while the mother was on the drug. Nevertheless, the suspicion remains that these drugs are a contributory factor in the etiopathogenesis of the clefts reported. It is suggested that reports of new cases should include type of cleft, sex of patient, race, family history of previous malformations and epilepsy, total number of pregnancies (including normal and abnormal offspring), the type, duration, and dosage of drug, and intake of supplementary vitamins during pregnancy. (Author abstract modified)

099906 Hall, David J.; Gardner, A. Quentin. Dept. of Mental Health Research Unit, University of Aberdeen, Aberdeen, Scotland Prescribing practice in a psychiatric unit. *The British Journal of Psychiatry* (London). 119(548):91-93, 1971.

From the results of drug use, the drugs prescribed for patients admitted to inpatient care at the Ross Clinic (Aberdeen, Scotland) over a one year period were analyzed in terms of the combinations of drugs used for a patient at any one time and the number of untoward events that occurred during the administration of the combination. The 270 patients received 449 different drug combinations over 924 periods of time and experienced 503 untoward events. The distribution of the number of such events by the number of drugs received at any one time is described and the number of events that occurred on single drugs or drug combinations that were used on over 12 occasions is reported. The greatest number of periods during which a drug combination was used was 102; this combination comprised the single drug amylobarbitone sodium. The number of untoward events increased as the number of drugs administered increased. 4 references. (Author abstract modified)

099922 Ryback, Ralph S.; Schwab, Robert S. McLean Hospital, Belmont, Mass. 02178 Manic response to levodopa therapy: report of a case. *New England Journal of Medicine*. 285(14):788-789, 1971.

A manic response to levodopa (L-dopa) therapy is reported in the case history of a 69 year old

male with right sided Parkinson tremor. Alteration of the patient's mood from euphoria to hypomania to mania occurred. A combination of L-dopa and lithium carbonate was found to benefit the tremor and rigidity and prevent recurrence of manic symptoms. Dosage and treatment procedures are described. 8 references.

099993 Carruthers, S.G. Wakehurst House, Belfast City Hospital, Northern Ireland Persistent tardive dyskinesia. *British Medical Journal* (London). 3(5774):572, 1971.

A case of irreversible syndrome of persistent tardive dyskinesia attributed to long-term intake of chlorpromazine is described. It is seen that despite the previous poor prognosis of this condition, a trial of therapy with thiopropazate dihydrochloride (Dartalan) produced a remarkable improvement. The difficulty in conclusively establishing phenothiazine treatment as the etiological factor in such conditions is also briefly discussed, as well as contraindications for the use of thiopropazate therapy in persistent dyskinesia. 9 references.

100056 no author. author address not given Peripheral neuropathy and disulfiram. *Lancet* (London). 2(7725):649-650, 1971.

It is uncertain whether a peripheral neuropathy in an alcoholic patient under treatment is the result of continued alcohol ingestion or of disulfiram therapy. Alcohol may affect the neuromuscular system at many sites. It is not always easy to distinguish an alcoholic peripheral neuropathy from a myopathy, and there is some evidence that the 2 disorders overlap. Reduced motor and sensory conduction in patients with clinical evidence of alcoholic neuropathy is well documented. Sporadic reports of peripheral neuropathy associated with disulfiram treatment have appeared, but clinical details are hard to get. The neuropathy is associated with demyelination of motor and sensory fibers and nerve conduction velocity is reduced. An electrophysiological investigation of patients taking disulfiram but without clinical features of a peripheral neuropathy might be rewarding.

100131 Herzberg, Brenda N.; Draper, Katharine C.; Johnson, Anthony L.; Nicol, Gillian C. Area Laboratory, West Park Hospital, Epsom, England Oral contraceptives, depression, and libido. *British Medical Journal* (London). 3(5773):495-500, 1971.

Depression, headaches and libido were rated in 272 women before starting a contraceptive method and at intervals during the first year of use -- 54 were fitted with an intrauterine device (I.U.D.) and 218 used one of 3 oral contraceptives. Side effects caused 25% of the oral contraceptive group and 13% of the I.U.D. group to stop the method. Depression, headaches, and loss of libido were the most common reasons for stopping oral contraceptives, and breakthrough bleeding was the most common reason for stopping the I.U.D. The group of women who stopped or changed their oral contraceptives during the survey were compared with the group who remained on the same oral contraceptive throughout. The former had higher mean depression and neuroticism scores at the first clinic visit and contained more women with a history of premenstrual weepiness, depression during pregnancy, outpatient psychiatric treatment, and treatment with antidepressants. Changes in the depression, headache, and libido ratings throughout the survey are presented. 20 references. (Author abstract modified)

**100134 Crawford, Robert.** Royal Edinburgh Hospital, Andrew Duncan Clinic, Edinburgh Pupillary paralysis after tranquillizer. *British Medical Journal (London)*. 3(5773) 530-531, 1971.

A female patient with schizophrenia was started on pimozide 6mg in the morning, and after 2 weeks, 4mg in morning, 2mg at night. There was some improvement in her symptoms, and after 3 weeks the dosage was increased to pimozide 4mg b.i.d. Six days later she complained of mild Parkinsonian tremor of the hand and leg and immobile facies. This responded to bztropine 2mg t.i.d; she was discharged from inpatient treatment on this dosage. One month after starting pimozide 4mg b.i.d. her schizophrenic symptomatology appeared to be under control, but she was complaining of poor visual acuity. On examination there was paralysis of the ciliary muscle of both eyes, with fixed dilated pupils, and paralysis of accommodation. Pimozide was reduced to a maintenance dose, and orphenadrine substituted for bztropine. Her vision and pupillary responses to light and accommodation gradually returned to normal over the following 2 weeks. It would appear, therefore, that as well as causing Parkinsonian side effects in a dosage of 8mg daily, pimozide caused paralysis of accommodation, and interfered with normal pupillary reactions.

**100204 Dasberg, H.; Robinson, S.** Psychiatric Hospital 'Talbieh', Jerusalem, Israel Electroencephalographic variations following anti-psychotic drug treatment. *Diseases of the Nervous System*. 32(7):472-478, 1971.

Previous studies on EEG variations following treatment by phenothiazine derivatives and their relationship to the clinical course in mentally ill, are extended to demonstrate the correlation of drug induced serial EEG changes with clinical course, and psychiatric diagnosis in patients suffering from a variety of acute, functional, nonorganic mental diseases, treated with different antipsychotic drugs and drug combinations in a wide range of dosages. A diagnostically heterogeneous group of 30 patients and clinical and psychodiagnostic parameters were applied concomitantly with serial EEG recording in the course of 8 weeks. The administration of drugs had no effect on the electrophysiological activity of brain in patients with exacerbation of previous postpsychotic states or on those with persistent personality disturbances, their records remained unchanged; whereas acute psychoses such as agitated depression, paranoid and schizophrenic states found their expression in clear variations of the background activity as well as in paroxysmal phenomena. The EEG changeability, becoming apparent in the wake of drug treatment, correlates with favorable clinical outcome and is in a large measure independent of the absolute drug dosage or the type of neuroleptic. The disintegration of electrophysiological brain activity ensuing upon the effect of drugs -- a condition required for subsequent reintegration on a higher functional level -- becomes manifest in a pattern of gradual, consecutive slowing and synchronizing of the background activity in a wide range of frequencies. This pattern appears to be the decisive factor in the clinical course and outcome of the mental disease. The role of the EEG investigation in mental hospitals lies mainly in its monitoring the psychotic drug treatment. 27 references. (Author abstract modified)

**100206 Salomon, Mardoqueo I.; King, Edward J.; Gallo, Gloria.** 1350 Madison Avenue, N.Y. 10028 Renal functional damage during the course of lithium therapy: a case report with renal biopsy findings. *Diseases of the Nervous System*. 32(7):483-485, 1971.

A 44 year old woman on lithium therapy for manic-depressive psychosis and with moderate hypertension developed a mild impairment of

renal function which returned to normal after temporary cessation of lithium ingestion. A renal biopsy performed at the height of her kidney derangement showed arteriolo-arterionephrosclerosis compatible with her hypertension. Readministration of lithium caused no recurrence of renal functional damage. 9 references. (Author abstract)

**100403** Gonin, D.; Vedrinne, J.; Vincent V.; Jouglaard, J.; Faivre, M. author address not given /Toxicomanic behavior from artane./ Conduites toxicomaniaques a l'artane. *Medecine Legale et Dommage Corporel (Paris)*. 4(2):149-151, 1971.

The toxic effects of artane, a drug used in anti-Parkinsonian therapy, are discussed, with emphasis on the behavioral disorders produced from overdose. Specific information is given concerning such abuse by a group of adolescent boys and the resulting manic behavior. Contraindications for its therapeutic use and the usual treatment procedures when toxicity is experienced are treated. General behavioral effects are hallucinations, extreme mental confusion, and euphoria, the extent of which depends on dosage. Since abuse of this drug is increasing among young people, the need for preventive measures are stressed, including stricter pharmacological control over its sale, along with concentrated efforts to offer treatment to persons with psychosocial problems tending to induce drug experimentation.

**100404** Do, J.P.; Vedrinne, J.; Bacheller-Notter, J. author address not given /Acute intoxication by meprobamate: clinical and medico-legal aspects./ L'intoxication aigue par le meprobamate: aspects clinique et medico-legal. *Medecine Legale et Dommage Corporel (Paris)*. 4(2):141-145, 1971.

Observations are made concerning the nature and incidence of acute intoxication caused by meprobamate. One of the nonneuroleptic tranquilizers, and the results of clinical and pathological examinations of patients suffering death from this condition are analyzed. It is stressed that the toxicity of this drug is 4 to 5 times greater than many barbiturates. In cases of sufficient overdose, patients died within several hours, were generally young in age, and did not indicate sufficient visceral degeneration to explain death. Pulmonary edema was often found but could be related to the lesions related to intoxication. Present data are insufficient to make concrete conclusions concerning the seriousness of the problem and further research is recommended. It appears,

however, that the major risk in such intoxication is acute circulatory insufficiency. A correlation also exists between the dosage and depth of the coma, but not between the dosage and duration of the coma. Hemodynamic problems were observed with mild doses, but grave complications in this area occurred only with very strong ones.

**100406** Rouzioux, J.M.; Armand, J.; Vedrinne, J.; Vitani, Ch.; Badinand, A. Laboratoire de la Pharmacie, Hopital Edouard-Herriot, Lyon, France /Imipramine tissue repartition breakdown in man as related to six cases of fatal intoxication./ Repartition tissulaire de l'imipramine chez l'homme a propos de six cas d'intoxication mortelle. *Medecine Legale et Dommage Corporel (Paris)*. 4(2):146-148, 1971.

The toxicity of imipramine and trimeprimine, 2 of the dibenzoazepines, is discussed, based on the histories of 6 suicide cases in which an overdose resulted in death. A report is given of the major organs in which high concentrations of the drugs were found based on tissue breakdown, and some observations are made on the likely biological process and mechanism of action of these drugs in developing conditions sufficient to cause death. Problems involved in determining exact dosage are discussed and the importance of the time lapse after death and before autopsy in making such determination is stressed. It is concluded that postmortem examinations for this purpose are therefore impractical and unreliable. 13 references.

**100495** Clark, T.J.H.; Collins, J.V.; Tong, D. Guy's Hospital, London, S.E.1, England Respiratory depression caused by nitrazepam in patients with respiratory failure. *Lancet (London)*. 2(7727):737-738, 1971.

Observations of respiratory depression caused by nitrazepam administration in patients with respiratory failure are presented. In 3 patients with respiratory failure given nitrazepam as night sedation, carbon dioxide narcosis developed rapidly. It is suggested that there is no drug with sedative, hypnotic, tranquilizing properties which cannot cause respiratory depression. Restlessness, which might be thought an indication for sedation, may be a sign of worsening respiratory failure where sedatives are contraindicated. 3 references. (Author abstract modified)

100496 James, I.Pierce. Glenside Hospital, Bristol BS16 1DD, England Bromism. *Lancet*. 2(7727):762, 1971.

The relatively unpublicized problem of bromide psychosis caused by abuse of carbromal or other bromide containing hypnotics is briefly discussed. Case material indicates that the symptoms in such cases often are not associated with acute bromism but are instead attributed to chronic hypnotic drug intoxication. Analysis of the serum bromide level, however, usually accounts for the cause. Evidence of withdrawal psychosis after admission to a hospital is attributed to chloral-hydrate withdrawal, the other constituent of the bromochloral mixture. Physical dependence to the bromide is unlikely, but a tremulous withdrawal psychosis clinically resembling delirium tremens does occur with chloral hydrate dependence. It is concluded that chloral hydrate, the least toxic and dangerous of the hypnotics, may lead to serious forms of addiction in some individuals, and that the more dangerous compounds now in use for this purpose are even more hazardous. 4 references.

101061 Rogers, M.P.; Whybrow, P.C. Massachusetts Mental Health Center, 74 Fenwood Road, Boston, Massachusetts 02115 Clinical hypothyroidism occurring during lithium treatment: two case histories and a review of thyroid function in 19 patients. *American Journal of Psychiatry*. 128(2):158-163, 1971.

The case histories of 2 individuals developing hypothyroidism during treatment with lithium carbonate are presented. A review of thyroid function in 19 patients revealed a significant decrease in protein bound iodine concomitant with lithium treatment for an average of 15 months. It is suggested that this antithyroid effect may be of importance in the theoretical understanding of the antimanic effect of lithium; attention is to the importance of assessing thyroid function and noting the use of other potentially antithyroid medications prior to and during long-term lithium treatment. 24 references.(Journal abstract modified)

101156 Casarett, Louis J.; Baselt, Randall C. Department of Pharmacology, University of Hawaii School of Medicine, Honolulu, Hawaii A toxicologic view of marijuana. *Hawaii Medical Journal (Honolulu)*. 30(4):262-265, 1971.

Some toxicologic features of marihuana have been examined with respect to available data and

principles of toxicology customarily used for predicting the impact of a chemical on individuals and on populations. In the present state of toxicologic knowledge of marihuana, several conclusions can be drawn. The active ingredients clearly have a partially defined low grade acute toxicity which is related to the customary usage. There is reasonable evidence pointing to a probability of chronic toxicity and a dangerous acute toxicity for some individuals of the population, who cannot clearly be identified prior to use. A variety of pharmacologic features point to a complexity of action and interaction with other chemicals, which require answers. The data support skepticism about claims that marihuana is innocuous and suggest biomedical caution. 26 references. (Author abstract)

101174 Aoki, Fred Y.; Ruedy, John. Division of Clinical Pharmacology, Montreal General Hospital, 1650 Cedar Avenue, Montreal 109, Quebec, Canada Severe lithium intoxication: management without dialysis and report of a possible teratogenic effect of lithium. *Canadian Medical Association Journal (Toronto)*. 105(8):847-848, 1971.

A case report of severe lithium intoxication is given. The case was managed without dialysis. The patient showed symptoms of difficulty before delivery of an infant with bilateral talipes equinovarus with spastic paraparesis, aqueduct stenosis with mild hydrocephalus, spina bifida with sacral meningocele, an atonic bladder and a patulous rectal sphincter with rectal prolapse. About 60 hours after delivery the patient had 3 generalized seizures with marked depression of the level of consciousness. A diagnosis of severe lithium intoxication was confirmed by the finding of a serum lithium concentration of 5.0mg/liter. Thirty four days after parturition the mother's leukocyte chromosomes were normal. Seven of 8 of the infant's leukocytes showed a total of 10 chromosome breaks. There is no family history of congenital anomalies. The father is a schizophrenic and takes lysergic acid, although he denied its use prior to the conception of this child. The role of chlorpromazine as a teratogen cannot be discounted although it is shown to be associated with teratogenicity with no evidence of causality. 14 references.

101309 Medvecky, J.; Durindova, Z. namesti Osloboditelov 18, Kosice, Czechoslovakia /Toxic

drug-induced psychoses./Toxicke liekove psychozy. *Ceskoslovenska Psychiatrie (Praha)*. 67(2):98-103, 1971.

Toxic psychoses were induced in 14 patients by the use of STM, TH 1314, cycloserine, antiasthmatic drugs, atropine poisoning, pericent, fenmetrazine, dexfenmetrazine and after the euphoric effect of alnagon. In addition to hallucinatory activity, visual illusions, psychomotor agitation, depersonalization, paranoid delusion, anxious tension, and vegetative symptomatology were present. Depressive states were less pronounced. One patient manifested manic mood with megalomaniacal delusions. The paradoxical depression noted in 2 patients after administration of central stimulatory drugs is not very common. The prognosis for these psychoses was relatively good. Phenothiazines were therapeutically most effective. Convulsive biological therapy was not required. All of the psychoses induced by toxic drugs had an acute character. 10 references. (Author abstract modified)

101409 Persson, G. Department of Psychiatry, University of Umea, Umea, Sweden Side effects of a 'sustained release' lithium preparation. *Acta Psychiatrica Scandinavica (Supplement) (Kobenhavn)*. No.221:33-38, 1971.

The side effects of lithium carbonate tablets and a sustained release form of lithium sulfate containing the same amount of the lithium ion were compared in an open crossover study on 20 outpatients who had recovered from recurrent affective disease. The patients were already using the carbonate tablets in the dose 300mg 3 or 4 times daily. The preparations gave comparable serum lithium levels. During the sustained release form (lipett) period abdominal pains and diarrhea were significantly more common. Looser stools showed a significant relation to the lipett dose, half of those using 4 lipetts a day got diarrhea. As the latter dose with present demands on serum lithium concentration will be common, this type of lipett is not suitable. 7 references. (Author abstract modified)

101653 no author. author address not given LSD link with testicular cancer? *World Medicine*. 7(1):43, 1971.

Further discussion in 2 previously reported cases of testicular choriocarcinoma, both in 21 year old white men is presented. Each patient had been on 20-30 LSD (lysergic acid diethylamide)

trips prior to the onset of the malignant tumor. Both patients had been treated for an acute epididymitis for at least 3 months before the correct diagnosis was entertained and proved by radical orchiectomy. Although a cause and effect relationship cannot as yet be proved, the possibility of an association between choriocarcinoma of the testes (a malignancy classified as germinal tumor) and the long-term use of LSD is raised.

102039 Zvolsky, P. Ke Karlovu 11, Prague 2, Czechoslovakia /Some risks of lithium therapy./ Nektera rizika lithiove lechy. *Ceskoslovenska Psychiatrie (Praha)*. 67(3):168-170, 1971.

Lithium treatment may have an effect on the thyroid gland, balance upon rising, and kidney and motor functions. It may affect human chromosomes, and high concentrations of lithium in mice and rats have been shown to have a teratogenic effect. Lithium intoxication is manifested by gastrointestinal, neuromuscular, and cardiovascular symptoms and by symptoms of central nervous system disorders. It appears that intoxication almost invariably develops gradually. The main principles involved in the treatment of barbiturate poisoning apply also to lithium intoxication. For the prevention of intoxication, correct control of the lithium level in the blood serum and increased attention in situations in which the functional ability of the kidneys to eliminate lithium may be decreased, even temporarily, are essential.

102185 Van Kempen, G.M.J. Biochemical Laboratory, Mental Hospital Endegeest, Oogstgeest, Netherlands Urinary excretion of perphenazine and its sulfoxide during administration in oral and long-acting injectable form. *Psychopharmacologia (Berlin)*. 21(3):283-286, 1971.

Urinary excretion of the unchanged drug and perphenazine-sulfoxide was measured in a group of patients receiving at first oral perphenazine (24mg dd) and after some weeks perphenazine-enanthate, a long acting injectable preparation (100mg per 14 days). A significant decrease in the absolute quantities of unchanged perphenazine and of the sulfoxide was observed. There was no constant ratio between the quantities excreted. A relative increase in the excretion, expressed in percentages of the administered dose, was demonstrated. 7 references. (Author abstract)

102534 Rapp, M.S. Department of Psychiatry, Sunnybrook Hospital, Toronto 12, Ontario Reaction to flurazepam. *Canadian Medical Association Journal*. 105(10):1020-1021, 1971.

A 65 year old man with recurring episodes of depression was treated with flurazepam (Dalmane) which produced a swelling of the tongue. When the flurazepam was substituted with chloral hydrate the swelling disappeared. The incident is of interest, not simply because it was a fairly clear cut allergic reaction, but because this man had had many exposures in the past to chlor-diazepoxide and diazepam which are structurally so similar. It cannot be assumed, therefore, that the absence of allergic reactions to chlor-diazepoxide and diazepam necessarily indicates that there will not be a reaction to flurazepam.

102750 Pearlman, Chester A., Jr. Veterans Administration Hospital, Boston, Mass. Manic behavior and levodopa. *New England Journal of Medicine*. 285(23):1326, 1971.

The reaction of a man being treated with L-dopa for parkinsonism is reported. The man developed a manic behavioral reaction after his parkinsonism improved. The patient had had no history of manic behavior. After being hospitalized, his manic behavior and paranoid ideation soon subsided but without the use of a psychotropic drug or of a change in the dosage of L-dopa. The manic reaction apparently was precipitated by the psychosocial implications of the change in the man's parkinsonism. The variety of psychological responses to L-dopa therapy and their similarity to reactions to other major life changes such as cardiac surgery suggest that psychosocial factors are at least as important as the chemical effect. 4 references.

102829 Tunev, V.M. Moskovskii nauchno-issledovatel'skii institut psikhiatrii MZ RSFSR, Moscow, USSR /On the clinical picture of complications in the treatment of epileptic patients with anti-convulsants./ K klinike oslozhenii pri lechenii bol'nykh epilepsiei protivosudorozhnyimi preparatami. In: Semenov, S., *Voprosy kliniki i terapii psikhicheskikh zabolevanii*. Moscow, Ministerstvo Zdravookhraneniia SSSR, 1971. 276 p.(p. 141-144).

Twenty eight female epileptic patients observed for drug reactions were found to be resistant to therapy. Forty one instances of toxic reactions were noted. In almost all cases, the patients

received combined treatment with diphenin, phenobarbital, benzonal, and carbamazepine. The most frequent symptoms of intoxication were nystagmus and hand tremors. Patients with asthenic personality features reacted to medicinal intoxication with a deepening of asthenic manifestations and with depression. Dermatological allergic reactions were also observed. The therapeutic measures introduced under conditions of slight complications included massive vitamin therapy, stimulant cathartics, detoxification preparations, anabolic hormones, and desensitizing substances. In clear cases of complications, drug dosages were decreased.

102880 Luby, Elliot D.; Schwartz, David; Rosenbaum, Herbert. 951 E.Lafayette, Detroit, Mich. 48207 Lithium-carbonate-induced myxedema. *Journal of the American Medical Association*. 218(8):1298-1299, 1971.

Possible effects of lithium carbonate therapy on thyroid functioning are discussed, including a case report of lithium carbonate induced myxedema. After 6 months of lithium carbonate maintenance therapy, a myxedematous state was induced in a middle aged, manic-depressive man in whom results from basal thyroid function studies were found to be normal. The diagnosis was missed because it was assumed that his mental state and psychomotor retardation were manifestations of a shift to the depressive phase. The diagnosis of myxedema should be considered when a manic-depressive patient maintained with lithium carbonate develops sluggish mentation, apathy, and facial edema in the absence of the subjective experience of depression. 8 references. (Author abstract modified)

102916 Johnstone, Robert E.; Manitsas, George T.; Smith, Edwin J. Department of Medicine, University of Cincinnati Medical Center, Cincinnati, Ohio Apnea following methaqualone ingestion: report of a case. *Ohio State Medical Journal*. 67(11):1018-1020, 1971.

A case of methaqualone intoxication following ingestion of 80 sleeping pills is presented. Despite previous reports of lack of respiratory depression with this drug, this patient had 36 hours of apnea. An apparent clinical and chemical improvement followed hemodialysis. 13 references. (Author abstract modified)

103187 Van Woert, Melvin H.; Ambani, Lalit M.; Weintraub, Michael I. Yale University School of Medicine, New Haven, Conn. Manic behavior and levodopa. *New England Journal of Medicine*. 285(23):1326, 1971.

Observations on the therapeutic effect of lithium carbonate on the mental and motor side effects of levodopa are reported. A 53 year old man with a history of parkinsonian symptoms was started on levodopa which was gradually increased in dosage over one month to 6g per day, when moderate improvement was observed in his symptoms. But during the next 3 weeks, a reversal of his sleep cycle occurred, with euphoric periods alternating with paranoid ideation. A few days after levodopa was stopped, the man's behavior was normal. Subsequent attempts with levodopa therapy produced the psychotic manic-like symptoms within 24 hours. The fifth attempt at levodopa therapy was combined with 300mg lithium carbonate q.i.d. (levodopa dosage was 1.25g per day). The manic behavior progressively recurred over the next 2 weeks so that both drugs were discontinued. The main effect of the lithium carbonate was to delay but not to prevent the onset of the manic-like reactions. Lithium carbonate and levodopa were combined in the therapy of 4 other parkinsonian patients who had mental or motor hyperactivity secondary to levodopa treatment. The lithium carbonate increased the anorexia and nausea due to levodopa in 2 patients and produced sleepiness in a third. The minimal improvement in the mental and motor side effects of levodopa did not warrant the continuation of lithium carbonate in any of these patients. Caution is urged in view of these side effects in treating Parkinson's disease patients with lithium carbonate; it has not been found to have any therapeutic value in the management of levodopa induced side effects.

103188 Ryback, Ralph S. McLean Hospital, Belmont, Mass. Manic behavior and levodopa. *New England Journal of Medicine*. 285(23):1326-1327, 1971.

Comment and discussion are offered on reports of the side effects of L-dopa with and without lithium carbonate in treating psychiatric patients. One patient progressed to mania only when a specific level of L-dopa was prescribed, a response that occurred twice. Though lithium produces no mania, this patient tended to become manic if lithium was not taken regularly. The re-

ported abreactions may be due to a patient's neurochemical or neurophysiological reserve or tolerance that eventually allows him to adapt behaviorally to the biochemical stress of L-dopa. Probably, each individual response to L-dopa, as to lithium, is related to the specific neurochemical as well as psychological reserve or tolerance. The case described suggests that where neurochemistry predominates and L-dopa is indicated, lithium may be useful in controlling the manic or hypomanic behavioral response. 4 references.

103204 Klawans, H.L., Jr.; McKendall, R.R. Department of Neurology, Rush-Presbyterian-St. Luke's Medical Center, Chicago, Illinois 60612 Observations on the effect of Levodopa on tardive lingual-facial-buccal dyskinesia. *Journal of the Neurological Sciences (Amsterdam)*. 14(2):189-192, 1971.

A patient with neuroleptic induced lingual - facial - buccal dyskinesia and minimal drug induced Parkinsonism was treated with Levodopa. This markedly worsened her abnormal movements. This observation supports the concept that tardive dyskinesias are related to hypersensitivity of dopaminergic receptors to dopamine. It is suggested that Levodopa should be avoided in such patients. 22 references. (Author abstract)

103633 Stevens, Joseph B.; Wilkinson, Edward G. USAF Academy Hospital, USAF Academy, Colorado 80840 Drugs, dry mouth, and dental disease. *Psychosomatics*. 12(5):310-312, 1971.

A case report is presented of a patient with dry mouth brought on by treatment of phenothiazines and antidepressants, and resulting in extensive dental caries which necessitated extraction of all the teeth. It is suggested that patients with diseases requiring long-term medication with an anticholinergic agent should be referred to a dentist as soon as the health of the patient permits. An explanation by the referring physician of the disease and the action of the drugs being used should accompany the referral, enabling the dentist to place the patient on a well controlled oral physiotherapy program. 10 references.

103794 Matussek, N.; v.Hessling, P. Neurochemische Abteilung, BRD-8000 Munich 23, Kraepelin St.2, W.Germany /A comparison of side effects between lithium acetate and lithium sulfate./ Vergleich von Lithium-Nebenwirkungen zwischen einem Kurzzeit-(Quilonum) und einem Depot-

preparat (Lithium Duriles). *Nervenaarzt (Berlin)*. 42(7):376-378, 1971.

The lithium sulfate (Duriles) developed for treatment of manic phases and prophylaxis of cyclothymia has delayed action properties which should reduce the undesirable side effects of treatment by short-range effective, high impact lithium acetate (Quilonum). A sample of 15 endogenously depressive patients was tested to measure for drug treatment differences. The tremor and concentration capacity tests, administered first while patients were under Quilonum and then under Duriles therapy, showed significant improvements under Duriles in the performance of 14 and 15 patients respectively, although subjectively only 9 for the first factor and 5 for the second registered differences on a self-evaluation questionnaire. No difference for other side effects (dizziness, irritability, nausea) were found. Diminished concentration and learning capacity can be seen as primarily a function of tiredness experienced in the initial phase of lithium treatment, abating with time. But even patients who had been under Quilonum therapy for a protracted period showed significant increases in concentration and learning ability when switched over to Duriles. While few patients reported less fatigue, the concentrations tests of 14 showed a 25% increase over their scores achieved while under Quilonum medication. Thus, prophylactic lithium treatment with delayed action preparations seems to be preferable to lithium acetate. 5 references.

104833 Gunne, Lars-M; Lidvall, Hans F.; Widen, Lennart. Psychiatric Research Center, University of Uppsala, Ulleraker Hospital, Uppsala, Sweden Preliminary clinical trial with L-DOPA in narcolepsy. *Psychopharmacologia (Berlin)*. 19(2):204-206, 1971.

L-DOPA was administered to 6 patients (3 men and 3 women) with narcolepsy in order to determine whether long-term administration has an alerting effect comparable to amphetamine. L-DOPA was given in an initial dose of 0.8g on the first day and increased 0.2g every day until an acceptable clinical response was reported or until side effects prevented further increase. In 2 of the patients postural hypotension necessitated the interruption of L-DOPA administration at low dosage, while 4 patients continued treatment from 35-112 days. Three patients reported favorable effects, but psychological tests and EEG studies did

not confirm this. All 6 patients reported side effects and for this reason L-DOPA cannot be recommended for long-term treatment of narcolepsy. 2 references.

105084 Shopain, Baron; Friedmann, Richard; Gershon, Samuel. Neuropsychopharmacology Research Unit, Dept. of Psychiatry, N.Y. Univ. Medical Center, N.Y. Lithium and leukocytosis. *Clinical Pharmacology and Therapeutics*. 12(6):923-928, 1971.

Peripheral blood specimens from 22 hospitalized psychiatric patients and 1 outpatient were examined for white blood cell (WBC) count changes during treatment with lithium carbonate. Significant leukocytosis occurred during periods of lithium ingestion; this phenomenon was reversible, apparently innocuous, and not related to psychiatric diagnosis or the many variables of hospitalization. While elevations in WBC count are likely the result of a drug effect, they were not dose related or dependent on the concentration of lithium in the peripheral blood. A trend toward neutrophilia and lymphocytopenia emerged for the group but cannot be said to account for the global change in total WBC. 28 references. (Author abstract)

105087 McMullin, G.P. Ryegate Center, Sheffield, England Teratogenic effects of anticonvulsants. *British Medical Journal (London)*. 4(5784):430, 1971.

Evidence of teratogenic effects of anticonvulsants is discussed. The case of an infant born at term to a woman suffering from posttraumatic epilepsy and taking phenobarbitone, primidone, phenytoin, phensuccinimide, and carbamazepine is presented. The infant had ambiguous external genitalia (a large clitoris with rudimentary prepuce and common urogenital opening). Radiography and laparotomy revealed a hemiuterus, Fallopian tube, and streak gonad on the left, with a normal testis and seminal vesicle on the right. Chromosome analysis was performed on peripheral lymphocytes and both gonads. All were reported to be homogeneously 46/XY. The occurrence of the syndrome of mixed gonadal dysgenesis, together with the history of exposure in utero to anticonvulsants, may be coincidental. However, there is considerable experimental evidence to suggest that just such a syndrome might be due to anticonvulsants. 6 references.

**105089 Johnson, Brian D.** Leicester General Hospital, Leicester, England Psychosis and ketamine. *British Medical Journal (London)*. 4(5784):428-429, 1971.

A case history of a 29 year old female who received 300mg ketamine for evacuation of the uterus following an incomplete abortion is presented. The patient suffered from hallucinations, and consulted a doctor a year after the operation. Psychometric testing showed the subject to be relatively normal and, therefore, whatever mechanism produced the long-lasting symptoms, attribution to the drug can not be denied.

**105277 Milner, Gerald.** Claremont Hospital, Davies Road, Claremont, Western Australia 6010, Australia Adverse reactions and the specificity of antidepressant drug effects. *The Medical Journal of Australia (Sydney)*. 2(5):272-274, 1971.

The concept one condition, one drug, does not hold for psychiatric diseases or psychotropic drugs. Not only are psychiatric diseases difficult to classify, but any given psychotropic drug may typically be indicated for a broad range of conditions. Psychotropic drugs such as phenothiazines and tricyclic antidepressants have many chemical and structural similarities. The structural overlap of these psychotropic agents accounts for the overlapping spectra of pharmacological activity and clinical effectiveness. Their varying toxicity is harder to explain but is not apparently directly related to sedative potency. The tricyclic antidepressants and phenothiazines possess both central stimulant and depressive properties. The behavioral effects and side effects of all these psychopharmaceuticals depends not only on the patient but also on the dose level and interaction with other agents. Because psychotropic drugs, particularly the antidepressants, may simply provide symptom relief while the patient awaits natural remission and therefore may be taken for months or years, the patient is exposed in a cumulative fashion to the risk of side effects. Extra care must be taken in the exact choice of a maintenance drug. 25 references.

**105387 Fouron, Jean-Claude;** Chicoline, Raymond. Ste Justine Hospital, 3175 Cote Ste Catherine, Montreal, Quebec, Canada ECG changes in fatal imipramine (Tofranil) intoxication. *Pediatrics*. 48(5):777-781, 1971.

A case of poisoning with imipramine (Tofranil) was followed by serial electrocardiogram (ECG)

tracings in an 11 month old boy. Profound alteration of his myocardial function was observed during the first 18 hours following absorption of the drug; these cardiovascular perturbations lead to irreversible cerebral damage. Because of the atropine-like effect of the drug and the report of alteration in the ECG tracing of adult patients under imipramine therapy, it is advised that all children under such therapy be checked with an occasional ECG for possible change in myocardial function. 15 references. (Journal abstract)

**105491 Albert, Elfriede.** Med. Abteilung der Firma C.H.Boehringer Sohn, 6507 Ingelheim /On the therapy and problematic nature of Parkinson syndrome./ Aur Therapie und Problematik des Parkinson-Syndroms. *Nervenarzt (Berlin)*. 42(5):225-241, 1971.

A state of the art review of research on Parkinsonism is presented with emphasis on therapy and therapy-generated problems. Relative frequency of the disease is noted, particularly increase in idiopathic cases over the last decades. Etiology of the disease is traced. Metabolism of amines in the brain is discussed. The pharmacological basis for L-dopa therapy is presented. Oral high dosage treatment of the Parkinson syndrome as reported in the international literature since 1967 is summarized in tabular form giving anamnestic data, etiology, dosage, length of treatment, general results and side reactions, or adverse reactions, which resemble the action of amphetamines. Paranoid, hallucinatory psychoses have been reported which seem akin to ephedrine psychoses. It is advocated that more research be done on the kind of hidden, or yet unknown, adverse effects which damage the sensitive basal ganglia and generate idiopathic cases of Parkinsonism. Suspect are insipient infections as well as chemical agents with unrecognized brain stem affinity. 166 references.

**105837 Vinar, O.** Institute of Psychiatry, Prague 8-Bohnice, Czechoslovakia Scale for rating treatment emergent symptoms in psychiatry DVP. *Activitas Nervosa Superior (Praha)*. 13(3):238-240, 1971.

A scale for rating the side effects encountered during psychiatric pharmacotherapy has been found to be satisfactory for the vast majority of patients, but some symptoms which occur rarely could not be rated. An enlarged and modified scale has been devised which rates the functional areas of hypotension, tremor, extrapyramidal

symptoms, dystonia and oral syndrome, akathisia, tachycardia, skin symptoms, dry mouth, drowsiness, blurred vision, liver function, increased salivation, nasal congestion, bradycardia, perspiration, sexual functions, lactation, urinary disturbance, gastric functions, intestinal functions, toxic confusional state, weight gain, and libido. 2 references.

**105894 Ananth, J.V.** Douglas Hospital, 6875 Lasalle Blvd., Verdun 204, Que. Repeated episodes of phenmetrazine psychosis. *Canadian Medical Association Journal (Toronto)*. 105(12):1280-1281, 1971.

A case history illustrating the occurrence of repeated psychotic episodes associated with the ingestion of phenmetrazine (Preludin) is reported. It has been demonstrated that phenothiazines decrease brain dopamine concentration concurrent with enhanced turnover and thus produce extrapyramidal signs. 6 references.

**106097 Rysanek, K.; Konig, J.; Spankova, H.; Mlejnkova, M.** Department of Infectious Diseases, J.E.Purkyne University, Brno-Bohunice, Czechoslovakia The effect of octoclotheptine on the epinephrine aggregation test. *Activitas Nervosa Superior (Praha)*. 13(3):227-228, 1971.

A study was made of the effect of octoclotheptine, a neuroleptic drug with antidepressant effects, on the aggregation of thrombocytes in human plasma induced by epinephrine and adenosine diphosphate. Octoclotheptine was shown to have a significantly lower inhibiting action on thrombocyte aggregation in platelet rich plasma than imipramine or norimipramine. It appears that octoclotheptine stabilizes the cellular membrane of the thrombocyte and prevents liberation of the macroergic phosphates from the thrombocytic interior. It also seems to inhibit the uptake of the biogenic amines. 8 references.

**106483 Jenkins, A.C.; Schwieger, A.C.** 8 Marlborough Avenue, Camberwell, Vic. 3124 Therapeutic guidelines and side effects encountered during L-dopa therapy in 100 cases of parkinsonism. *Medical Journal of Australia (Sydney)*. 2(14):693-700, 1971.

Psychiatric side effects, as well as gastrointestinal, cardiovascular, and neurological reactions, observed in a series of more than 100 Parkinsonian patients receiving l-dopa for 18 months are discussed in detail and in relation to dosage.

The type of psychiatric disturbances observed included exacerbation of preexisting depressive states, leading in one instance to a positive, although unsuccessful, suicide attempt; a toxic confusional state with ataxia, slurred speech and irrational behavior; hallucinations similar to those experienced during delirium tremens; continual irrelevant talking accompanied by acute restlessness and feelings of panic; outbursts of irritability and violence; and in one case, attacks of sudden confusion. In the majority of these cases, l-dopa had to be withdrawn, although in others, a reduction of dose produced a return to mental stability. In several of those cases in which therapy was stopped, later introduction of the drug produced a repetition of the psychiatric state. Psychiatric side effects in this series have been more frequently seen in cases of postencephalitic Parkinsonism than in those of idiopathic etiology. It is concluded that perhaps the most important contraindication to l-dopa is prior evidence of psychiatric disorder. As a general rule, any patient who has suffered or is suffering from mental lability should be excluded from l-dopa therapy, unless there is an extremely pressing need for it. 42 references.

**107444 Kusumi, Yoshitaro.** Department of Psychiatry, School of Medicine, University of North Carolina, Chapel Hill, N.C. 27514 A cutaneous side effect of lithium: report of two cases. *Diseases of the Nervous System*. 32(12):853-854, 1971.

The development of a skin rash which appeared in treatment of lithium carbonate in 2 patients is reported. The skin lesions consisted of small acneiform papules and frank ulceration which subsided spontaneously whether lithium was discontinued or not. In both cases the serum lithium level remained below the toxic threshold. It appeared to be related to the abrupt rising of lithium concentration in the body. The basic mechanism, however, is not certain. 11 references. (Author abstract)

**107546 Shader, Richard I.** Harvard Medical School, Boston, Massachusetts Psychiatric complications of medical drugs. New York, Raven Press, 1971. 345 p. \$14.50.

The psychiatric effects of a large number of commonly used pharmaceutical agents are discussed in detail, and the evaluation is felt to be of use to both psychiatrist and general practitioner. Specific topics considered include: digitalis

delirium; behavioral effects of cortisol in man; depressions following reserpine; belladonna alkaloids and synthetic anticholinergics; behavioral effects of L-dopa in man; psychiatric sequelae of amphetamine use; psychiatric sequelae to tuberculosis chemotherapy; hormones and behavior; psychological effects of androgens and estrogens; progesterone and oral contraceptives; the use of vitamins as therapeutic agents; and emotional side effects of placebo.

**107653 Stancer, Harvey C.; Kivi, Rehn.** Clinical Investigation Unit, Clarke Inst. of Psychiatry, Univ. of Toronto, Toronto 2B, Ontario, Canada Lithium carbonate and oedema. *Lancet (London)*. 2(7731):985, 1971.

Five cases of oedema during lithium carbonate therapy are reported. Evidence that tubular reabsorption of sodium has a role in the oedema is noted. Some patients were reported to have striking weight gains during the initial period of treatment. 8 references.

**107886 Braude, Monique C.; Mansaert, Ronald; Trullitt, Edward B., Jr.** Center for Studies of Narcotic Addiction and Drug Abuse, NIMH, Rockville, Md. Some pharmacologic correlates to marihuana use. (Unpublished paper). Rockville, Md. NIMH, 1971, 9 p.

An overview of increasingly available animal and experimental human studies on Cannabis sativa and its active ingredient 1-trans-delta(9)-tetrahydrocannabinol (delta(9)-THC) is presented. Studies include those on: acute toxicity; chronic toxicity; metabolism; teratology; central nervous system effects; behavioral effects; autonomic and cardiovascular effects. The delta(9)-THC mechanism of action and toxicity is still very incomplete. In the post-THC synthesis period the identification of components, standardization of chemical variables, and quantitation of action in animals and in man has been achieved. Much research remains to be conducted to explain the mechanism of the atypical acute pharmacologic action of THC and to achieve animal demonstration of this action at reasonable doses comparable to those effective in man. Most particularly the long-term effects of marihuana need study. Although new research has not demonstrated the likelihood of serious physical abnormalities produced by chronic smoking, there are many possibilities remaining for critical evaluation. The possibilities of chronic mental disturbances of a

functional nature existing in memory, thinking, personality, and emotional processes must be examined in heavy marihuana smokers. 113 references. (Author abstract modified)

**107948 Clare, A.W.** Maudsley Hospital, London SE5, England Diazepam, alcohol, and barbiturate abuse. *British Medical Journal (London)*. 4(5783):340, 1971.

A case has been reported of diazepam abuse in a woman aged 39 years old who originally sought treatment for disturbed sleep and who became severely dependent on diazepam, alcohol, and barbiturates over a period of 6 years. Despite a family history of alcohol abuse and a personal history of barbiturate excess, this patient was prescribed diazepam in a large dose for her phobic symptoms. Diazepam was used only for several weeks before abuse began and signs of dependence were manifested. It should be recognized that the benzodiazepines, which include diazepam, have dependence as a potential hazard. 7 references.

**107995 Weiss, James L.; Cohn, Cal K.; Chase, Thomas N.** Laboratory of Clinical Science, National Institute of Mental Health, Bethesda, Maryland 20014 Reduction of catechol-O-methyl-transferase activity by chronic L-dopa therapy. *Nature (London)*. 234(5326):218-219, 1971.

A substantial decline is reported in the activity of catechol-O-methyltransferase (COMT), an enzyme important in mediating catecholamine catabolism, in the red blood cells of Parkinsonian patients receiving chronic L-dopa treatment. The finding of reduced red blood cell COMPT activity, if representative of the effect of chronic L-dopa treatment on COMPT activity in other tissues, may be relevant to previous findings that suggest a tendency for L-dopa dose requirement to decrease over a period of weeks or for the clinical effects of the drug to increase gradually at a fixed dose. 7 references.

**108007 Goodwin, Frederick K.** Building 10, Room 45-239, National Institutes of Health, Bethesda, Maryland 20014 Psychiatric side effects of levodopa in man. *Journal of the American Medical Association*. 218(13):1915-1920, 1971.

Levodopa is the amino acid precursor of the catecholamines, dopamine, and norepinephrine, and its administration is associated with mental changes. When given to animals, levodopa has

been found to produce a variety of behavioral effects dependent to some extent upon the dose and species employed. In general, high doses have been shown to produce alerting motor activation and increased aggressiveness. The rationale for its use in parkinsonian patients is based upon evidence that a dopamine deficiency exists in certain areas of the brain in these patients. A study of 908 parkinsonian patients treated with levodopa indicated a 20% mean incidence of psychiatric side effects, with predominance of confusion and disorientation, which sometimes progresses to delirium. Studies oriented more specifically to psychiatric aspects of levodopa administration have reported a higher incidence of psychiatric side effects. Depending upon the conditions, levodopa can produce such paradoxical effects as hypomania in some individuals and depression in others. In view of the wide range of effects of levodopa in animals and in man, further controlled study of this amine precursor should be conducted not only in parkinsonian patients but also in normal individuals and in patients with various behavioral disorders. 65 references.

**108014** Brown, T.C.K.; Dwyer, M.E.; Stocks, J.G. Royal Children's Hospital, Flemington Road, Parkville, Victoria 3052, Australia Antidepressant overdose in children -- a new menace. *Medical Journal of Australia (Sydney)*. 2(17):848-851, 1971.

Tricyclic antidepressant overdose admissions have tripled at the Royal Children's Hospital during the last year, and it has become the commonest cause of admission to a hospital for drug overdose. The group which is subject to the greatest risk consists of children 4 years old and younger. Drowsiness, sometimes combined with ataxia, is the most common symptom of overdose. The frequency of overdose can be reduced through the use of safety tops for containers or foil wrappers for tablets, the presentation of tablets in a less tempting form, education of parents, installation of childproof poison cupboards in homes, and more careful consideration of the therapeutic indication for dispensing these drugs. 14 references.

**108513** Dixon, Jim D.; Bubeck, Ralph; Cunningham, Roger; Gullledge, A.D. Univ. of Oklahoma Medical Center, 800 N.E. 13th Street, Oklahoma City, Oklahoma 73104 Phenothiazine induced cardiac arrhythmia. *Journal of the Kansas Medical Society*. 72(8):341-343, 353, 1971.

A report of a 37 year old female with schizophrenia is presented who was treated with massive doses of phenothiazines and subsequently had a cardiac arrest. Postresuscitation, she developed life threatening cardiac arrhythmias which were successfully treated with intravenous propranolol. Various possible explanations for the electrocardiographic abnormalities induced by the phenothiazines are surveyed. 19 references. (Journal abstract modified)

**108704** Marinow, A. Psychiatric Hospital, Bela/Russensko, Bulgaria Diabetes in chronic schizophrenia. *Diseases of the Nervous System*. 32(11):777-778, 1971.

Diabetes was observed in 7 chronic paranoid schizophrenics. With 3 of them, the diabetes appeared after 2-3 years of neuroleptic treatment. The blood sugar level reached up to 400mg % without being reduced by Rimicid or insulin. The blood sugar elevation is considered to be related to the complex endocrinologic disconnections in schizophrenia as well as resulting from neuroleptic treatment in the sense of the so-called phenothiazine diabetes as described by Thonnard. 8 references. (Author abstract)

**108727** Kariks, J.; Perry, S.W.; Wood, D. Dept. of Pathology, Port Moresby General Hospital, Boroko, Papua New Guinea Folic acid and phenytoin levels in permanently hospitalized epileptic patients receiving anticonvulsant drug therapy. *Medical Journal of Australia (Sydney)*. 2(7):368-371, 1971.

Folic acid deficiency is one of the side effects of the treatment of epileptic patients with anticonvulsant drugs. Laboratory investigations on 188 epileptic patients receiving anticonvulsant drug therapy revealed that 20% had folic acid deficiency and 23% phenytoin overdose. In view of possible permanent damage to the central nervous system due to folic acid deficiency and phenytoin intoxication, a recommendation is made for repeated serum folic acid and phenytoin estimations in all epileptic patients receiving prolonged anticonvulsant therapy. 18 references. (Author abstract modified)

**108798** no author. author address not given Adverse effects of hydantoins. *Medical Journal of Australia (Sydney)*. 2(7):346-347, 1971.

The adverse effects of diphenylhydantoin (DH), widely used in treating epilepsy, are discussed. The side effects fall into 2 groups, those due to

individual hypersensitivity to the drug and those which are dose dependent. The idiosyncratic reactions generally appear soon after DH is first taken. The most common are skin eruptions, usually morbilliform, but occasionally appearing as erythema multiforme or exfoliative dermatitis. The most prominent dose dependent side effect of DH is a vestibulo cerebellar ataxia which appears in most treated patients once the plasma DH concentration exceeds 20 microgram/ml. Plasma folate concentrations are often reduced in patients taking DH and this folate deficiency is believed responsible for the macrocytosis that is often found in treated epileptics, and for the instances of megaloblastic anemia which may occur, though here serum vitamin B-12 levels also are low despite normal B-12 absorption from the gut. DH has been shown to alter the incorporation of orotic acid into nucleic acids, and so may affect protein metabolism. This DH therapy may affect the interpretation of biochemical tests of adrenal and thyroid function. It is felt that adverse effects are well known and beneficial effects warrant continued use of the drug. 17 references.

108799 Oates, R.K.; Tonge, R.E. Dept. of Pediatrics, St. Mary's Hospital, London, W.2., England Phenytoin and the pseudolymphoma syndrome. *Medical Journal of Australia (Sydney)*. 2(7):371-373, 1971.

From the reported cases, it appears that the characteristic clinical syndrome produced by the antiepileptic agent phenytoin, and the other hydantoins, consists of fever, an exanthematous eruption, eosinophilia, lymphadenopathy, usually enlargement of the liver and spleen, and sometimes arthralgia. Although this complication is now well recognized in adults, it is very unusual in children, and only 6 cases attributed to phenytoin have been reported to date. The case history is described of a child who developed generalized lymphadenopathy following phenytoin sodium therapy. This reaction is thought to be of the delayed hypersensitivity type and may closely mimic malignant lymphoma. The possible long-term effects are discussed. 9 references. (Author abstract modified)

109234 Genest, P.; Villeneuve, A. Department of Pathology, Laval University, Quebec 10, Quebec, Canada Lithium and mitotic index. *Lancet (London)*. 2(7737):1325, 1971.

Experimental results which reported that lithium had no significant effect on the mitotic index of blood lymphocyte cultures of healthy adults are contradicted by the weight of evidence from other studies. The capacity of lithium ions to inhibit cell proliferation has been demonstrated in various types of animals and in plant cells, fungi, and bacteria.

109725 Burrows, Graham D.; Davies, Brian. Department of Psychiatry, University of Melbourne, Royal Melbourne Hospital, Victoria, Australia Antidepressants and barbiturates. *British Medical Journal (London)*. 4(5779):113, 1971.

A letter to the editor discusses the fact that in patients receiving 200mg amylobarbitone nocte for 5 days the plasma levels of nortriptyline were lowered. This effect is apparently due to the effects of barbiturates on stimulating liver microsomal activity. Since the evidence is that plasma tricyclic levels are related to clinical response, barbiturate hypnotics should not be prescribed for patients receiving tricyclic antidepressants. 3 references.

110043 Hilton, Angela M. University Department of Medicine, Withington Hospital, Manchester M20 8LR, England Sedative drugs in respiratory failure. *Lancet (London)*. 2(7730):922, 1971.

Comments are made about sedative drugs emphasizing that any sedative, hypnotic, or tranquillizer is potentially dangerous to patients with respiratory failure. Two clinical situations are described in which patients were given mild hypnotics (promazine and nitrazepam) which resulted in respiratory depression. Corrective therapy improved the condition.

110477 Ginath, Y.; Lavy, S.; Abramsky, O.; Carmon, A. Talbieh Psychiatric Hospital, Jerusalem, Israel Mental complications of l-dopa therapy in Parkinson's patients. *Israel Annals of Psychiatry and Related Disciplines (Jerusalem)*. 9(3):252-264, 1971.

Among 74 patients treated for Parkinson's disease with l-dopa, 22 (29.9%) developed marked mental disturbances. The main symptoms observed in these patients were confusion, psychotic episodes, depression and anxiety with agitation alone, or in various combinations. The susceptibility to develop mental symptoms was associated mainly with the severity of the disease, and to a lesser degree also with the age of the patients.

There was also an indication that the incidence of the mental complications was higher among patients who had psychiatric problems before the treatment. The relationship between the possible mechanism of the production of the mental manifestations and the mechanism of action of the neuroleptic drugs is discussed. 29 references. (Author abstract)

111128 Li, K.C.; Rothschild, Carl J.; Miles, James E. Department of Psychiatry, Health Sciences Centre Hospital, University of British Columbia, Vancouver 8, B.C. Hypertensive crises during MAO therapy. *Canadian Medical Association Journal (Toronto)*. 105(5):455, 1971.

The case of a hypertensive crisis occurring during the use of a monoamine oxidase (MAO) inhibitor is reported. The patient was a woman with a history of recurrent psychotic depressions. After being maintained on tranlycypromine for about 29 days she began to suffer severe frontal headache and epigastric discomfort accompanied by sharp rise in blood pressure. She was then given 1 mg. of phentolamine which afforded relief of the headache and epigastric discomfort with a corresponding drop in blood pressure.

111331 Bain, D.J.G.; Turner, T. Victoria Hospital, Kirkcaldy, Fife, Scotland Imipramine poisoning. *Archives of Disease in Childhood (London)*. 46(250):887, 1971.

The management of a 9 year old child with severe poisoning resulting from the accidental ingestion of 1.25gm of imipramine and amitriptyline is presented. Particular emphasis is placed on findings which have not been extensively discussed elsewhere: the development of severe left ventricular failure and the marked increase in the serum enzyme levels. Circumstances surrounding the death of 20 children following accidental ingestion of tricyclic antidepressants are analyzed. 2 references.

111564 Luke, C.M. Wellington, New Zealand Tricyclic antidepressants and heart disease. *New Zealand Medical Journal (Dunedin, New Zealand)*. 74(474):345, 1971.

A letter to the editor presents 3 cases of occurrence of cardiac failure in patients treated with tricyclic antidepressants. Alcoholic myocardial disease could not be excluded in one patient, but the cause of the cardiomyopathy in the other cases could not be established. Drugs used were:

amitriptyline, protryptiline, imipramine, or nortriptyline. It is noted that clinicians should inquire about earlier medication with antidepressant drugs in patients presenting with unexplained cardiac failure. 1 reference.

111724 Gwynne, J.F. Dunedin, New Zealand Tricyclic antidepressants and heart disease. *New Zealand Medical Journal (Dunedin, New Zealand)*. 74(475):414-415, 1971.

A case is described in which it appeared that myocardial damage was due to the effects of amitriptyline. Cause and effect relationship was impossible to establish with certainty, particularly as the analyst was unable to isolate amitriptyline in postmortem tissues and fluids. Circumstantial evidence, however, suggested that the cardiac damage was related to the episode of amitriptyline overdose 6 weeks prior to sudden death. There now seems to be sufficient suggestive evidence to justify careful observations of the myocardium by pathologists when opportunity arises with a view to establishing the significance of this major tissue side effect in depressed patients who are prescribed this therapy. At present, some caution in ascertaining a causal relationship is desirable because of the nonspecificity of the inflammatory reaction and the possibility that other agents or factors might be responsible.

111963 Murray-Lyon, Iain M.; Young, Janet; Parkes, J.D.; Knill-Jones, R.P.; Williams, Roger. Department of Neurology, King's College Hospital, London, SE5 8RX Clinical and electroencephalographic assessment of diazepam in liver disease. *British Medical Journal (London)*. 4(5782):265-266, 1971.

The effects of 5mg of diazepam intravenously were assessed in 23 patients with liver disease, 10 of whom had clinical evidence either in the past or at the time of study of hepatic encephalopathy. Transient drowsiness occurred in all patients, but prolonged deterioration in conscious level was not observed. Serial electroencephalographic recordings showed the development of activity at faster frequencies, similar to that found in normal subjects, a change which is different from that usually observed in cirrhotic patients after administration of chlorpromazine and morphine when slow-wave activity is increased. 11 references. (Author abstract)

112436 Vinarova, E.; Vinar, O. Vyzkumny ustav psychiatricky, Prague 8, Bohnice, Czechoslovakia /Psychotic episodes provoked by a combination of barbiturates and phenmetrazine./ Psychotické epizody, vyvolane kombinaci barbituratu s fenmetrazinem. *Ceskoslovenska Psychiatrie (Praha)*. 67(5):284-291, 1971.

Two cases have been reported of patients who received long-term application of a combination of phenmetrazine and barbiturates in situations in which the course of the psychosis was typical. In the first patient, an acute hallucinatory, paranoid syndrome disappeared abruptly following an epileptic seizure, when barbiturates were withdrawn after poisoning. In the second patient, the same syndrome was halted when phenmetrazine was discontinued. Only knowledge of early and spontaneous disappearance of psychotic symptoms when self-administration of stimulants is discontinued upon admission to the hospital, a thorough history of previous drug abuse, and discovery of the drugs or their metabolites in the urine can reveal the true etiology of psychotic episodes. 40 references. (Author abstract)

113636 no author. author address not given Marihuana and diabetic coma. *Medical Journal of Australia (Sydney)*. 1(7):360, 1971.

Severe diabetic ketoacidosis followed marihuana ingestion in a previously healthy 21 year old man. Originally hospitalized for an acute paranoid schizophrenic reaction, the patient, who had been using LSD and smoking marihuana for 3 years prior to admission, responded well to hospitalization and treatment with chlorpromazine hydrochloride. While on leave from the hospital, he ate marihuana over a 3 day period. Several hours after the initial dose, he complained of nausea, abdominal discomfort, and polyuria. Vomiting occurred during the second day, but physical examination revealed no definite abnormality, and the clinical impression was that of a nonspecific viral gastro-enteritis. On the third day, he was febrile, his vomitus was black-brown and grass like, and he was semicomatose. Emergency treatment of his diabetic ketoacidosis with isophane insulin suspension proved successful, and a month later he was stable on 30 units of isophane insulin suspension. Comparisons are drawn between this case and 2 similar cases with liver damage recorded in India. It is suggested that the nausea, vomiting and possible other effects from ingesting large doses of marihuana

pose a considerable threat to a person with a vulnerable metabolic system. In this case, it appears that the glucose regulating system was overtaxed. 2 references.

113999 Prior, Pamela F.; MacLaine, G.N.; Scott, D.F.; Laurance, B.M. E.E.G.Department, London Hospital, El 1BB, England Intravenous diazepam. *Lancet*. 7721(2):434-435, 1971.

The use of intravenous diazepam is discussed. Of 5 patients with acute confusional states and continuous atypical spike and wave activity in the electroencephalogram who were treated, 2 were given intravenous diazepam which abolished with EEG discharges within a few minutes and led to a return of an alert state with apparently normal mentation. An adverse reaction occurred in a 10 year old girl with a history of epileptic seizures. When 8mg of diazepam was given intravenously the atypical spike and wave activity was replaced by high voltage discharges of generalized spikes lasting from 10 to 30 seconds and followed by rhythmic delta waves. The patient showed severe tonic spasms accompanied by a loud cry, apnoea, unconsciousness and incontinence. After about an hour the child was alert and in a greatly improved state in spite of the seizures.

116383 Masuda, Hiroshi; Kimura, Kunio; Nishiyama, Takao; Matsunuma, Naohika; Okonogi, Takashi; Suzuki, Yoshio. Research Laboratories Sankyo Co., Ltd., Tokyo, Japan The safety test of 10-chloro-11b-(2-chlorophenyl)-2,3,5,6,7, 1 11-hexahydrobenzo(6,7)-1,4-diazepino(5,4-b)-oxazol-6-one(CS-370). *Annual Report of Sankyo Research Laboratories*. 23:151-179, 1971.

Acute toxicity, subacute toxicity, and chronic toxicity in mice rats and dogs to CS-370, a new minor tranquilizer is reported. The lethal dose of CS-370 in mice and rats by the oral, intraperitoneal and subcutaneous administration is low (50%) CS-370 administered orally to rats for five weeks does not cause any severe toxic symptoms at doses below 1,000mg/kg a day, but decreases the body weight at doses above 250mg/kg a day. Several rats died during the five week experimental period when administered doses of 1,500mg/kg a day. No toxic indication is found in rats given doses under 50mg/kg a day for 27 weeks. No toxic effect is observed in dogs at doses less than 10mg/kg a day for four months. 8 references. (Author abstract modified)

117457 Breyer, U.; Remmer, H. Ursula Breyer, Institute für Toxikologie der Universität, Wilhelmstr.56, D-7400 Tübingen, Germany /Determination of amitriptyline and metabolites in various organs after fatal poisoning./ Bestimmung von Amitriptylin und Metaboliten in verschiedenen Organen nach einer tödlichen Vergiftung. *Archiv für Toxikologie (Berlin)*. 28(3):176-181, 1971.

A 37-year-old man died about 48 hours after ingestion of an unknown quantity of amitriptyline. Concentrations of the drug and of its metabolite nortriptyline were determined in several organs by means of extraction, thin layer chromatography and UV spectroscopy. The substances were found in an order of decreasing quantity in spleen, lung, liver, kidney, cardiac muscle and brain. The concentration of nortriptyline generally exceeded that of amitriptyline. (Author abstract)

118128 Wacławik, Paweł. Dzierżynskiego 31, woj.katowickie, Cieszyn, Poland /Administration of Novocain in some comatose states following intoxication./ Zastosowanie nowokainy w niektórych toksycznych stanach śpiączkowych. *Psychiatria Polska (Warszawa)*. 5(4):425-427, 1971.

Intravenous injection or drip of 10-20ml of a one percent procaine solution can be used to rouse patients from comatose state following mild intoxication produced by ingestion of chiefly neuropsychotropic drugs. A description of the application of procaine in three individual cases is presented. Intravenous administration of procaine causes prolonged or short-term arousal from a comatose state through the mechanism of cerebrovascular contraction. 5 references. (Author abstract modified)

118217 Dragon, Paweł. ul.Gliwicka 33, Rybnik, Poland /Exogenous psychosis following accidental haloperidol intoxication./ Psychoza egzogenna po przypadkowym zatruciu haloperidolem. *Psychiatria Polska (Warszawa)*. 5(3):341-344, 1971.

A case of acute exogenous psychosis subsequent to accidental poisoning with haloperidol is presented. The report illustrates the possibility of appearance of a manic state in some psychiatric patients treated with this drug. In the described individual, psychiatric disturbances occurred during menstruation and a state of general fatigue. Therefore, haloperidol is contraindicated in menstruating or overtired patients. 17 references.

118662 Turkiewicz, Ryszard. ul.Główna 16 m.53, Walbrzych, Poland /Myocardial infarction follow-

ing intoxication with ethanol and chlorpromazine./ Zawał serca po zatruciu etanolem i chlorpromazyną. *Wiadomości Lekarskie (Warszawa)*. 24(21):2031-2034, 1971.

The case of a male patient aged 45 years is described in whom almost asymptomatic myocardial infarction was diagnosed electrocardiographically on the twelfth day following intoxication with ethanol and chlorpromazine. The fact that focal damage to the heart was closely associated with the experienced intoxication and that both drugs had a synergistic effect suggests the possibility of a direct influence of these agents on the myocardium. On the other hand, neurohumoral disturbances caused by the intoxication could have affected the onset of the thrombotic process in the atherosclerotic coronary arteries in the patient. The oligosymptomatic clinical course appeared to be due to delayed normalization of biochemical disturbances in the central nervous system. (Author abstract modified)

122292 Appel, P.; Eckel, K.; Harrer, G. Landesnervenklinik, Ignaz Harrer Strasse 79, 5020 Salzburg, Austria /Changes in the bladder and sphincter tonus of the bladder by means of thymoleptics: cystomanometric studies in man./ Veränderungen des Blasen- und Blasensphinkertonus durch Thymoleptika: zystomanometrische Untersuchungen beim Menschen. *International Pharmacopsychiatry (Basel)*. 6(1):15-22, 1971.

A side-effect of treatment with thymoleptics (amitriptyline, desipramine, dibenzepine, imipramine and nortriptyline) is the increased sphincter tonus in the urinary bladder of depressed patients. A second manifestation of treatment with thymoleptics is the increased amount of fluid required to fill the bladder sufficiently to provoke detrusor contractions. Carbacholine, a cholinergic, usually leads to a strong urge to urinate and to detrusor contractions; this can be abolished by pretreatment with thymoleptics. A study was conducted in 16 patients in whom sphincter tonus was measured before and after treatment with thymoleptics and which demonstrated significant increases in tonus in 10 patients. Due to this effect, which is actually a central antidiuretic effect, imipramine is recommended for the treatment of enuresis nocturna. 17 references.

122950 Cichecki, Zbigniew. ul.Nowotki 12 m.17, Kielce, Poland /Hallucinosi following intoxication

with Phoschloride R-20./ Halucynoza po zatruciu foschlorem R20. *Psychiatria Polska (Warszawa)*. 5(5):607-609, 1971.

A case is presented of a male patient aged 34 years who suffered from hallucinosis following intoxication with 20%dimethyl-(2,2,2-trichloro-1-hydroxyethyl)-phosphonium(Phoschloride R-20). Similar complexes have also been observed following intoxication with ether and hydrogen sulfide as well as against a background of circulatory disturbances. Alcohol was eliminated as an etiologic factor. The mental state of the patient following his treatment on an internal medicine ward and preceding his admission to a mental hospital for the treatment of hallucinosis was connected with his diabetes, with depressive hypochondriacal manifestations being frequent especially in the initial stage of the disease.

123602 Schlefer, Ingeborg. Universitäts-Kinderklinik, 665 Homburg/Saar, Germany /Extrapyramidal-motoric symptoms and EEG changes after application of phenothiazine derivatives./ Extrapyramidalmotorische Symptome und EEG-Veränderungen nach Applikation von Phenothiazin-Derivaten. *Archiv für Kinderheilkunde (Stuttgart)*. 183(2):163-170, 1971.

A previously healthy girl (nine years, 11 months old) received two phenothiazine derivatives (triflupromazine and trimeprazine) for vomiting and motor disturbances during an influenza infection. After 45 and 40 hours, respectively, extrapyramidal disturbances began; they disappeared after intravenous injection of 10mg of diazepam. On the first and third days, diffuse disturbances of the basic rhythm with theta and delta waves, which were parieto-occipitally accentuated to the right, appeared in the electroencephalogram. The right accentuation had disappeared 23 days later and an EEG followup after 15 months was normal. 9 references. (Author abstract)

123702 Sax, Daniel S.; Tarsy, Daniel. Boston Veterans Administration Hospital, Boston, MA Side effects of L-dopa. *New England Journal of Medicine*. 285(18):1033, 1971.

In a letter to the editor two unusual side effects of L-dopa in four patients with Parkinson's syndrome are reported. In these cases there was evidence of diffuse motor disease of the central nervous system as manifested by apraxia of gait, bradykinesia, loss of postural adjusting

mechanism, hyperreflexia and unilateral or bilateral Babinski responses. Two patients with hypertension and evidence of an early lacunar state experienced generalized paresthesia. The other two patients with a degenerative corticopallidal syndrome and signs of frontal - basal involvement experienced a transient comatose state. The two patients with a history of hypertension experienced such a severe generalized burning dysesthesia of the skin that any sensory stimulus caused great discomfort and made the thought of clothes abhorrent. The dysesthesia, which could be reduced with the reduction of L-dopa, is suggestive of a hypersensitivity of the sensory system and thus may be comparable to the hyperkinesia that has come to be associated with L-dopa therapy. In the other two patients a coma like state developed in which the patient seemed to be in a deep sleep from which he could not be aroused. Extensive evaluations of these patients ruled out the possibility of an underlying subdural hematoma, other space occupying lesions, metabolic or other drug intoxication. 3 references.

125070 Girke, W.; Kanowski, S.; Mauruschat, W. Psychiatrische und Neurologische Klinik und Poliklinik der Freien Universität, 1000 Berlin 19, Nussbaum-Allee 30-38, Germany /Amential and aphasic disturbances appearing during psychopharmacologic therapy./ Kombination von amentialen und aphasischen Störungen unter Psychopharmakotherapie. *Archiv für Psychiatrie und Nervenkrankheiten (Berlin)*. 214(3):249-261, 1971.

Under psychopharmacological therapy five female patients had an amential and/or amnesic psychosyndrome in combination with neurological symptoms (hemiparetic syndromes and sensorimotoric aphasia). As an essential pathogenetic factor a cerebral predamage could be shown among four of the five female patients. Before the treatment, two of them already suffered a loss of efficiency in the sense of a diffuse organic brain syndrome of minor degree. Three pneumoencephalographically examined patients showed in one case a distinct cortical atrophy, in the other case a slight hydrocephalus internus et externus and in the third one an asymmetrical hydrocephalus internus. A left side carotis-interna-angiography of two patients revealed a local and/or a generalized disorder of cerebral blood circulation. After cessation of the psychopharmacological therapy, the symptoms related to the therapy diminished and disappeared within a maximal period of six

weeks. A possible functional connection between the amental amnestic syndrome and aphasic disorders is discussed. 44 references. (Author abstract)

125427 Richards, Keith C.; Borgstedt, Harold H. Department of Radiology, Columbia-Presbyterian Medical Center, NY 10032 Near fatal reaction to ingestion of the hallucinogenic drug MDA. *Journal of the American Medical Association*. 218(12):1826-1827, 1971.

Three cases are reported of adverse reactions to 3,4-methylenedioxymphetamine (MDA). Reactions reported are a near fatal, a severe, and a mild resulting from ingestion of a single 500mg capsule of pure MDA. Graded doses of pure MDA were administered to a series of mice, a cat, and a dog. Similar effects were observed, but the dosage was approximately 10 times greater. 4 references. (Author abstract modified)

125503 Voltolina, E.J.; Thompson, S.I.; Tisue, James. Department of Neuropsychiatry, Naval Hospital, Oakland, CA 94627 Acute organic brain syndrome with propranolol. *Clinical Toxicology*. 4(3):357-359, 1971.

A case study of a 49-year-old female who developed clinical and neuropsychometric evidence of an organic brain syndrome on propranolol (20mg t.i.d.) administered for severe depression is reported. It remitted when administration of the drug ceased and returned when she was rechallenged. The hyperthyroidism and depression showed constant improvement. 10 references.

126041 Kryspin-Exner, K.; Mader, R. Psychiatrisch-neurologische Universitätsklinik, Spitalgasse 23, A-1097 Vienna IX, Austria /Withdrawal delirium in chlormethiazole addiction./ Entzugsdelir bei Chlormethiazolsucht. *Wiener Medizinische Wochenschrift (Wien, Austria)*. 121:811-812, 1971.

A 31-year-old male alcoholic was treated with Distaneurin the ethane-disulfonate of 4-methyl-5-(beta-chlorethyl)-thiazole. The patient developed an addiction to the drug. Upon hospitalization, he suffered grand mal attacks, confusion with marked motoric restlessness, anxiety, optical and acoustic hallucinations and profuse sweating. A paranoid state with acoustic hallucination was present after 24 hours. An advanced organic psychosyndrome was seen during the next eight

days, as confusion states and hallucination continued. Vegetative instability tended toward collapse. Temperature increased to 39.5degrees C. Hallucination and disorientation abated on the tenth day. The psychosyndrome persisted for several months. Addiction to the drug is promoted by unsupervised outpatient dispensation, by its low toxicity and rapid tolerance. 9 references.

## 16 METHODS DEVELOPMENT

071568 Smith, David E.; Wesson, Donald R. Dept. of Pharmacology, San Francisco Medical Center, University of California, San Francisco, Calif. 94122 Phenobarbital technique for treatment of barbiturate dependence. *Archives of General Psychiatry*. 24(1):56-60, 1971.

A technique for withdrawal of patients physiologically dependent upon barbiturates and other sedative hypnotics is described. The technique involves substituting phenobarbital, a long acting barbiturate, for the addicting agent and subsequent withdrawal of the phenobarbital. The longer action of phenobarbital provides a more constant barbiturate blood level than the shorter acting barbiturates which are the classical withdrawal agents. The more constant blood level allows the safe utilization of smaller daily doses of barbiturate during withdrawal. 5 references. (journal abstract)

077930 Forglone, Albert G.; Barber, Theodore X. Medfield Foundation, Harding, Massachusetts 02042 A strain gauge pain stimulator. *Psychophysiology*. 8(1):102-106, 1971.

Focal pressure, applied to the skin over bone, is a method of evoking experimental pain of an 'aching' nature in which actual receptor stimulation is closely related to the applied stimulus. The apparatus described is designed to deliver constant pressure athwart and perpendicularly to the second phalanx of a restrained digit, by means of a lucite knife edge attached to a bonded strain gauge. The pain stimulator is useful in measuring pain threshold and pain tolerance while monitoring autonomic variables, and in determining the effects on pain tolerance of placebos, suggestions, distraction and hypnosis. 8 references. (author abstract modified)

077931 Hammar, Carl-Gustaf; Alexanderson, Balzar; Holmstedt, Bo; Sjoqvist, Folke. Department of Toxicology, Swedish Medical Research Council,

Stockholm, Sweden Gas chromatography-mass spectrometry of nortriptyline in body fluids of man. *Clinical Pharmacology and Therapeutics*. 12(3):496-505, 1971.

The application of the mass fragmentographic technique has allowed accurate identification of a tricyclic antidepressant drug, nortriptyline, and some of its metabolites in biological fluids from patients treated with therapeutic doses and from one patient intoxicated with the same drug. Mass fragmentography in combination with the scanning of mass spectra of compounds eluted from the gas chromatography column made it possible to identify nortriptyline and the metabolites, desmethylnortriptyline, 10-hydroxynortriptyline, and, tentatively, 10-hydroxydesmethylnortriptyline. 15 references. (author abstract)

078130 Sletten, Ivan W.; Osborn, Retus W.; Cho, Dong W.; Altman, Harold. Missouri Institute of Psychiatry, University of Missouri-Columbia, 5400 Arsenal Street, St. Louis, Missouri 63139 Agreement on specificity of psychotropic drugs. *Current Therapeutic Research*. 13(5):292-297, 1971.

The aim of the present study was to determine if senior clinicians in the Missouri Division of mental health could agree on mental status items from a 111 item checklist for which each of 10 recommended psychotropic drugs was of particular value. Each of 32 clinicians completed a mental status rating for each of the 10 drugs. As expected, the major tranquilizers are considered of most value for the hostile, angry, and psychotic manifestations, minor tranquilizers for anxiety, and antidepressants for depression. An initial sample was used to develop a formula to assign a mental status profile to a drug. This formula was used in a second sample to assign drugs to a profile. Assignment using this formula was compared to the assignment that the clinician originally had made. Poor agreement (32% on cross-validation) was found. However, when the drugs were grouped into 3 major categories, good agreement was found (84% on cross-validation). These clinicians seem to indicate that phenothiazines have little difference in specificity. 7 references. (author abstract modified)

078162 Decker, Walter J.; Combs, Harold F.; Treuting, John J.; Banez, Raphael J. Department of Medical Research, William Beaumont General Hospital, El Paso, Texas 79920 Dialysis of drugs

against activated charcoal. *Toxicology and Applied Pharmacology*. 18(3):573-578, 1971.

A two-compartment, four-pool model (plasma protein, plasma water: dialysis solution water, activated charcoal) was constructed and tested using a plastic dialysis cell and cellophane membrane to determine the effectiveness of activated charcoal as an additive to a dialysis system, since dialysis, a technique commonly used to reduce plasma concentrations of drugs to subtoxic levels, is often inefficient. The removal of all compounds tested (salicylates, d-amphetamine, methaqualone, diphenylhydantoin, chloroquine, meprobamate, pentazocine, glutethimide, barbiturates, d-propoxyphene, amitriptyline, diazepam, and chlor-diazepoxide) was enhanced by the addition of activated charcoal to the dialysis solution. 15 references. (author abstract)

086530 Crammer, J. L. St. John's Hospital, Aylesbury, Buckinghamshire, England /Plasma levels of psychotropic drugs./ No title. *Proceedings of the Royal Society of Medicine (London)*. 64(3):289-290, 1971.

The prior use of psychotropic drugs by psychiatrists without knowledge of their precise mechanism of action is discussed in terms of new methods of measuring drug plasma levels. The possibility of measuring plasma levels to modify dosage for each individual is presented. The side-effects of these drugs also present many problems of assessment in that some resemble symptoms of the disease. Future work in this field should focus on quantitative attention to all human effects of the drugs in relation to plasma levels. 2 references.

086532 Walter, C. J. S. Herts and Essex General Hospital, Bishops Stortford, Hertfordshire, England Drug plasma levels and clinical effect. *Proceedings of the Royal Society of Medicine (London)*. 64(3):282-285, 1971.

The clinical importance of plasma imipramine levels is discussed using a recently developed method of estimation. Imipramine was administered orally and the plasma from 16 trial patients collected weekly with plasma levels correlated with side-effects, rated on the Hamilton scale. All those responding to the drug had plasma levels above 20 micrograms per liter and non-responders had levels below this figure. A significant positive correlation between plasma imipramine levels and incidence of side-effects

was found. Mean plasma levels were shown to reach a peak at the end of one week of treatment and after the fourth week. A similar biphasic pattern was also seen in non-responders. Thus, a favorable outcome of depression appears to be correlated with steady state plasma imipramine levels with a similar relationship found in regard to side-effect frequency. 32 references.

086892 Payte, James T.; Wallace, Jack E.; Blum, Kenneth. San Antonio Free Clinic Inc., San Antonio, Texas 78206 Hydrolysis: a requisite for morphine detection in urine. *Current Therapeutic Research*. 13(6):412-416, 1971.

The sensitivity for detecting morphine in urine by both thin-layer and gas-liquid chromatography can be increased by acid hydrolysis of the glucuronide metabolite. A commercial laboratory that subjected 200 urine samples to acid hydrolysis prior to thin-layer chromatographic testing reported 27 morphine 'positives.' In contrast, another laboratory which did not utilize hydrolysis observed only 2 'positives.' Although other investigators have suggested that hydrolysis increases sensitivity for the detection of morphine in urine, many commercial laboratories still utilize unhydrolyzed samples to screen for opiates. The present investigation not only substantiates the need for hydrolysis in determining morphine in urine but clearly demonstrates that the exclusion of this step in the analytical scheme leads to a lack of credibility in the results obtained from the analysis of unhydrolyzed specimens. 8 references. (author abstract)

087142 Alliston, Geraldine V.; Bartlett, A. F. F.; de Faubert Maunder, M. J.; Phillips, G. F. Laboratory of the Government Chemist, Stamford Street, London, S.E.1, England An improved field test for hallucinogens. *Journal of Pharmacy and Pharmacology (London)*. 23(1):71-72, 1971.

In a letter to the editor, the author describes technique improvements in a field test for hallucinogens which remedy many disadvantages of other tests in use. These tests all lack sensitivity and may risk consuming the total sample. In the improved method, the solution of 5% 4-dimethylaminobenzaldehyde in HCl is made up in methanol (1:1), which is more stable, and use of a porcelain tile or tube is avoided by placing a small amount of the suspect material on a filter paper and adding a drop of the reagent. By chromatographic action the material responding to the re-

agent is carried away from the bulk of the sample, where dyestuffs and other materials interfere, and is concentrated into striations. It is possible to obtain a response with weak samples of lysergide which have failed to produce a fluorescence with an ultraviolet lamp. 4 references.

087669 Heimann, H. Psychopathologische Forschungsabteilung der Psychiatrischen Universitätsklinik Lausanne, CH-1000 Lausanne, Switzerland /Therapeutic possibilities of psychopharmacological drug trials./ Aussagemöglichkeiten des Probandenversuchs mit Psychopharmaka. *Therapeutische Umschau (Bern)*. 28(4):241-245, 1971.

Starting with the discussion of 2 critical objections to psychotropic drug trials on normal subjects, the importance of these trials for the development and testing of psychotropic effects of new substances at the actual state of therapeutic possibilities in psychopharmacology is examined. It is shown that an adequate psychological methodology and design make feasible a behavioral differentiation of typical psychopharmacological agents. Based on this differentiation, prediction of clinical effects can be made. The necessity of systematic investigations with standardized methods in order to improve these predictions is emphasized. 11 references. (journal abstract)

089039 Rosenbaum, Jerry L.; Kramer, Mark S.; Raja, Rasib; Boreyko, Christopher. Albert Einstein Medical Center, York and Tabor Roads, Philadelphia, Pennsylvania 19141 Resin Hemoperfusion: a new treatment for acute drug intoxication. *New England Journal of Medicine*. 284(16):874-877, 1971.

A resin-column hemoperfusion system was used to treat four patients with profound, life threatening drug intoxication. The column contained 650g of pyrogen free resin, Amberlite XAD-2. The resin is uncharged and has a crosslinked, polystyrene macroreticular structure with particular surface attraction for high molecular weight, lipid soluble molecules. Blood was pumped through the column at a flow rate of 300ml per minute for three hours. Two patients had secobarbital, one a mixture of glutethimide-butabarbital-ethchlorvynol, and one amobarbital intoxication. In all patients the column clearances of these drugs were markedly superior to known clearances with hemodialysis. A transient, modest fall in blood platelet concentration followed

hemoperfusion. No serious clinical toxic effects were noted. The resin-column hemoperfusion system was technically simpler, consistently more effective and clinically superior to hemodialysis. 12 references. (author abstract)

**098734** Ban, Thomas A. Douglas Hospital, 6875 LaSalle Boulevard, Verdun, Quebec, Canada Some reflections on the methodology of clinical psychopharmacological research. *Behavioral Neuropsychiatry*. 3(1-2):18-21, 12, 1971.

Some reflections are presented on the methodology of clinical psychopharmacological research. Human investigations with a new psychoactive drug commence upon completion of the animal pharmacological studies and are traditionally carried out in 3 successive phases. These are human pharmacology (Phase I), clinical pharmacology (Phase II), and clinical investigation (Phase III). A fourth, traditionally not encountered stage of human investigation is naturalistic clinical research which employs the complex least-squares analysis of variance. In this, the validity of the suggested treatment regime is tested in a study in which the sources of variance are subjected to statistical control. After an experimental hypothesis has been formulated in the course of the clinical pharmacological study, it is the aim of the clinical investigator to obtain the data in testing his hypothesis as quickly as possible. It is at this point that the problem of controlling the experiment becomes important. Psychopharmacology has been instrumental in establishing (reestablishing) for psychiatry its well deserved place among the various medical clinical disciplines. It is paradoxical that simultaneously with this development there is a strong social orientation in clinical psychiatry, and in clinical psychopharmacology a strong tendency to underestimate the role of clinical skill and to overvalue the importance of statistics. This may necessitate a full reevaluation of concepts of 'clinical methodology'. 25 references. (Journal abstract modified)

**099312** Gardiner, A. Quentin; Hall, David J. Dept. of Mental Health, University of Aberdeen, Scotland Drug monitoring in a psychiatric unit. *British Journal of Psychiatry* (London). 118(543):185-193, 1971.

Monitoring for adverse effects associated with drugs and other physical treatments was conducted on all patients admitted to a psychiatric

teaching unit for 1 calendar year. The design and implementation of the monitoring system is described. Multiple adverse effect experiences were common. The highest rates were associated with treatment by electroplexy, antidepressant drugs, and phenothiazines. Four fifths of all adverse effects occurred within 7 days of starting treatment. Age, socioeconomic status, and intelligence did not influence adverse effects experience, but women experienced significantly more events than men. Length of stay in the hospital was not influenced. 17 references. (Author abstract modified)

**099315** Coombs, H. I. St. Bernard's Hospital, Southall, Middlesex The estimation of lithium in serum. *British Journal of Psychiatry* (London). 118(543):225-226, 1971.

A simple, reliable, and accurate method for the estimation of lithium content in serum is detailed. The method utilizes a simple flame photometer and can be carried out in any ordinary hospital laboratory. Serum lithium estimation has recently assumed great importance in psychiatry.

**100168** Jansen, George A.; Bickers, Iva. 210 Chaucer Road, Charlottesville, Va. 22901 Rapid method for simultaneous qualitative assay of narcotics, cocaine, quinine and propoxyphene in the urine. *Southern Medical Journal*. 64(9):1072-1074, 1971.

A rapid method for simultaneous qualitative assay of narcotics, cocaine, quinine and propoxyphene in urine based on thin layer chromatography is described. Although the method is strictly qualitative, semiquantitation of each drug extracted can be made by comparing density and size of both control and test spots. The sensitivity of the method is adequate. The method is suitable for use in small laboratories. False positives can be readily eliminated. The method, including the extraction procedure, requires about 95 minutes. The initial cost of equipment and reagents is less than \$900. The technique is easily learned over a short period. 7 references.

**100261** Forrest, William H.Jr.; Bellville, J.Weldon; Brown, Byron, W., Jr. Anesthesia Department, Stanford University School of Medicine, Stanford, California Methodologic considerations of the evaluation of hypnotics in man: a biologic assay of pentobarbital and secobarbital. *Journal of Clinical Pharmacology and New Drugs*. 11(5):357-366, 1971.

A randomized double-blind crossover study was carried out in a Veterans Administration Hospital to ascertain the validity of a method for conducting clinical assays of hypnotics. Placebo and 2 doses each of pentobarbital (Nembutal) and secobarbital were administered to 62 medical and surgical patients, 33 of whom completed the 5 dose round. Hypnotic effects were determined from patients' evaluations of their sleep. The validity of the bioassay for some response variables was established. The potency of pentobarbital relative to secobarbital was estimated as approximately 0.7, with 95% confidence limits of 0.3 to 1.3. The incidence of side effects with secobarbital was slightly lower. At equipotent dose levels, they probably would be comparable for both drugs. 10 references. (Author abstract)

100438 Kimbell, Isham Jr.; Overall, John E.; Winkelman, George W.; Hughes, Waunell M. Psychiatry Service, Veterans Administration Hospital, Dallas, Texas Comparison of thioridazine and chlorpromazine in doctor's choice research design. *Clinical Pharmacology and Therapeutics*. 12(5):825-832, 1971.

A series of 156 patients selected by doctor's choice for treatment with either chlorpromazine or thioridazine was studied. The purposes of the investigation were to examine feasibility and utility of statistical control over extrinsic sources of variance in nonexperimental clinical research, to further the development of adequate model for clinical research in natural treatment settings, and to evaluate possible specific differences in therapeutic indications of 2 widely used phenothiazine derivatives. From statistical analyses of the data, the results indicated that response to treatment depends on a number of nonspecific factors, some of which interact significantly with drug treatments. In the treatment of certain types of patients who have been reported in other studies to have generally favorable prognosis or to evidence good placebo response, chlorpromazine and thioridazine appeared equally effective. In the treatment of types of patients that have not been reported to evidence such favorable nonspecific response, thioridazine appeared more effective. While both drugs are effective antipsychotic medications, the results from this study suggest that thioridazine may have a broader spectrum of activity. 9 references. (Author abstract)

101987 Clarke, E.G.C. Royal Veterinary College, London N.W.1, England Rapid detection of certain basic drugs in urine. *British Medical Journal* (London). 4(5778):35-37, 1971.

A method to detect a wide range of drugs in urine is reported. The procedure involves extraction of the drug into the chloroform phase, purification and concentration by the acid spot technique and identification by color tests. Mixtures of drugs may be resolved by paper chromatography. The technique described is designed for basic drugs only and will not extract cannabis or the barbiturates. It is emphasized that this method is in no way a substitute for normal toxicological analysis, and its results would not serve as legal proof in court. Owing to its speed and simplicity it should, however, be of service in providing confirmation of clinical or circumstantial evidence under conditions where normal laboratory facilities are not available. 11 references.

101990 Somers, K.; Gunstone, R.F.; Patel, Ashvin K.; D'Arbela, P.G. Makerere Univ. Medical School, Kampala, Uganda Intravenous diazepam for direct-current cardioversion. *British Medical Journal* (London). 4(5778):13-15, 1971.

The induction of anesthesia with intravenous diazepam is a valuable contribution to the simpler use of cardioversion and is the method of choice because it is readily available for elective cardioversion. Fifty six cardioversion procedures were carried out by this method in an African hospital. No special premedication or drug preparation was used. There were no hazards apart from transient apnea in 2 patients and persisting amnesia in one patient. 15 references. (Author abstract)

102937 Newmark, Charles S. University of North Carolina Medical School Techniques used to assess the efficacy of psychotropic drugs: a critical review. *Psychological Reports*. 28(3):715-723, 1971.

Some relevant literature concerning the techniques used to assess psychotropic drug efficacy is evaluated and summarized, and the need for an objective dependent variable to assess behavioral changes associated with drug effects is indicated. It is concluded that the most obvious basic requirements for the evaluation of psychotropic drugs at the human level are the development and maintenance of stable and reproducible baselines against which to assess

drug correlated changes. At present, no such measure has been developed. 39 references. (Journal abstract modified)

**104364 Kupfer, David J.; Detre, Thomas P.** Department of Psychiatry, Yale University School of Medicine, New Haven, Conn. Once more -- on the extraordinary side effects of drugs. *Clinical Pharmacology and Therapeutics*. 12(4):575-582, 1971.

A concise self-administered questionnaire is described which elicits responses to 40 symptoms usually attributed to psychotropic drugs. The relationship of such symptoms to age, sex, and education levels in a group of newly admitted psychiatric outpatients is examined. The symptoms most frequently reported correlate significantly with a standardized self-rating system form (KDS), suggesting that certain pretreatment symptoms may be somatic concomitants of the patient's illness. It is proposed that the determination of pretreatment incidence of all somatic and psychological symptoms that may be attributed to the administration of drugs is a necessary step in conducting clinical drug trials. 15 references. (Author abstract)

**104372 Efron, Daniel H.; Harris, S. Richard; Manian, Albert A.; Gaudette, Leo E.** Psychopharmacology Research Branch, National Institute of Mental Health, Chevy Chase, Maryland 20015 Radioassay of chlorpromazine and its metabolites in plasma. *Psychopharmacologia (Berlin)*. 19(3):207-223, 1971.

A method was developed for the quantitative formation of radiolabeled derivatives of chlorpromazine, chlorpromazine sulfoxide and their demethylated analogs in plasma extracts. Tritiated N-acetyl derivatives are formed from the demethylated compounds and C14-quaternary amines from the tertiary amines by acetylation and methylation, respectively. These reactions are quantitative over a wide range of concentrations. The reactions may be performed sequentially when chlorpromazine and its Nor derivatives (or chlorpromazine sulfoxide and its Nor derivatives) exist in a single extract. Herein, the mixture is first acetylated and subsequently methylated. The labeled derivatives are quantitatively separated and recovered by selective solvent partition. An extraction procedure has been suggested by which chlorpromazine and its Nors may be separated from chlorpromazine sulfoxide and its Nor derivatives so that each fraction may be subjected to

the sequential acetylation and methylation reactions. Recoveries of microgram quantities of standards from plasma are less than quantitative, probably because of losses due to glass adsorption and protein binding, but may be corrected with appropriate internal standards. As low as 15-20ng/ml of each compound are measurable in a 3 ml plasma aliquot. The method has been applied to a limited number of in vivo experiments in dogs and in humans. 8 references. (Journal abstract modified)

**104379 Agnew, Neil McK.; Ernest, Carole H.** Psychological Services Department, 135A Behavioural Sciences Building, York University, 4700 Keele Street, Downsview, Ontario, Canada Dose-response and biased set study of an amphetamine and a barbiturate. *Psychopharmacologia (Berlin)*. 19(3):282-296, 1971.

In a study with 315 college students, 3 dosage levels of barbiturate and 3 of amphetamine were compared with a placebo, all under 3 set conditions (neutral, stimulant and sedative). Drug reactions were assessed by performance measures and by self-rating scales administered at a series of standard times following the drug administration in order to provide drug - time - response patterns. The self-rating scales yielded clear dosage - time - response curves for both drugs at all dosage levels. There was no systematic evidence of set or drug by set effects. Research strategies in human drug studies are discussed. 27 references. (Journal abstract modified)

**105117 Forrest, I.S.; Green, D.E.; Rose, S.D.; Skinner, G.C.; Torres, D.M.** Veterans Administration Hospital, Palo Alto, California 94304 Fluorescent-labeled cannabinoids. *Research Communications in Chemical Pathology and Pharmacology*. 2(6):787-792, 1971.

Nine different cannabinoids were converted to their 1-dimethylaminonaphthalene-5-sulfonates. Mixtures of the fluorescent labeled cannabinoids were separated by thin layer chromatography, and individual spots were detectable at the 0.5nanogram level. This sensitivity appears adequate to develop an assay for biotransformation products of cannabinoids in human urine after the smoking of a single marihuana cigarette. 7 references. (Author abstract)

**106091 Kotasek, A.; Cervenka, J.; Bastecky, J.; Cerna, M.** Department of Obstetrics and Gynecology

gy, Charles University, Londynska 42, Prague 2, Czechoslovakia Further experience with Forrest tests in obstetrics. *Activitas Nervosa Superior (Praha)*. 13(3):222-224, 1971.

The urine from 150 newborn humans was tested for 4 days after delivery to determine whether the Forrest urine color test for chlorpromazine and other phenothiazine derivatives is applicable to newborns of mothers with those metabolites in their systems. Color reaction was delayed and more intensive in urine samples of newborns from pharmacologically influenced deliveries in comparison with the pharmacologically uninfluenced group. The hypothetical explanation of these findings may be caused by the presence of complicated pharmacological interaction between metabolites of maternal hormones and metabolites of phenothiazine derivatives or other compounds present in the administered medication. 4 references.

107630 Fink, Max; Shapiro, Donald M.; Itil, Turan M. New York Medical College, Five East 102nd St., New York, N.Y. 10029 EEG profiles of fenfluramine, amobarbital and dextroamphetamine in normal volunteers. *Psychopharmacologia (Berlin)*. 22(4):369-383, 1971.

A quantitative EEG study in volunteer adults was undertaken to distinguish single oral administrations of 50 and 100mg amobarbital, 10mg dextroamphetamine, 40mg fenfluramine and placebo. Four hour EEG recordings were monitored by frequent auditory reaction time tasks. The EEG changes were measured by digital computer period analysis. In the analysis, each drug was distinguished from placebo, and from each other, with the best discriminations for 50mg amobarbital and dextroamphetamine, and the poorest discrimination of fenfluramine from 50mg amobarbital. These observations are consistent with the clinical pharmacology of the compounds and suggest further applications of quantitative EEG for the classification of for the classification of psychoactive drugs. 32 references.

107885 Martin, W.R.; Gorodetzky, C.W.; Thompson, W.O. Addiction Research Center, Lexington, Ky. 40507 Receptor dualism: some kinetic implications. (Unpublished paper). Rockville, Md. NIMH, 1971, 21 p.

Families of theoretical dose effect curves for combinations of morphine and nalorphine have

been constructed using the model of receptor dualism and intrinsic activities and dissociation constants estimated from the available human pharmacologic data. It is concluded that for some sets of parameters it is impossible to distinguish from the configuration of the dose effect curves between the models of receptor dualism and competitive dualism. It is also pointed out that inspection of data is not a sufficient basis to make judgments about kinetic relationships. In an appendix the data presented by Bellville and Fleischli(1968) are reevaluated and it is concluded that their data are at least as consistent with the model of receptor dualism as they are with the model of competitive dualism. 15 references. (Author abstract)

108570 Floyd, William S. Wayne State University School of Medicine, Detroit, Mich. Psychopharmacological estrogen activity. *Behavioral Neuropsychiatry*. 3(7-8):22-24, 1971.

A theoretical synthesis of aromatic ring estrogen metabolites from diazepam and phenothiazines has been postulated with evidence based on existence of known metabolic pathways. This synthesis was postulated in an attempt to explain the bizarre endocrine behavior observed in many patients treated with these psychotropic drugs. The relationship of the estrogen activity to psychotropic drugs is impressive. 11 references. (Author abstract modified)

111999 Driscoll, R.C.; Barr, F.S.; Gragg, B.J.; Moore, G.W. author address not given Determination of therapeutic blood levels of methamphetamine and pentobarbital by GC. *Journal of Pharmaceutical Sciences*. 60(10):1492-1495, 1971.

A gas chromatography method is presented for the assay of methamphetamine and pentobarbital in blood following oral administration of the combination. The trichloroacetamide derivative of methamphetamine has higher electron capture sensitivity and is more easily chromatographed than previously reported derivatives. Details concerning the extraction procedure, derivative formation, percent recoveries of both drugs, and blood level data are given. 25 references. (Author abstract modified)

112202 Oliver, A.P. Dept. of Neuropharmacology, Division of Special Mental Health Research, Saint Elizabeth's Hospital, Washington, D.C. 20032 A simple rapid method for preparing parallel

micropipette electrodes. *Electroencephalography and Clinical Neurophysiology (Amsterdam)*. 31(3):284-286, 1971.

An improved method is described for preparing and cementing a single barreled micropipette electrode to one with 2 or more barrels for drug ejection. These 'parallel' pipettes can be used for intracellular or extracellular recording of neuronal activity during extracellular drug application. 11 references. (Author abstract)

117456 Sawada, H.; Shinohara, K. Department of Forensic Medicine, Gifu University School of Medicine, Tsukasamachi 40, Gifu, Japan On the urinary excretion of nitrazepam and its metabolites. *Archiv fur Toxikologie (Berlin)*. 28(3):214-221, 1971.

Using a colorimetric determination, the urinary excretion of nitrazepam and its metabolites was studied in rabbits under acute nitrazepam poisoning and in men treated with therapeutic doses. Single oral administrations of 1, 5, 10, or 50mg/kg to rabbits and 10mg to men were carried out. Within 24 hours, 13-20% of the administered doses are expected in the urine both in rabbits and men, mainly as 7-amino and the 7-acetamido derivatives. Besides these main metabolites, small

amounts of the 3-hydroxy-7-amino, the 3-hydroxy-7-nitro derivatives and 2-amino-5-nitrobenzophenone were detected as glucuronide conjugates. (Author abstract)

118968 Itil, Turan M.; George A.; Fukuda, Tet-suo. Missouri Institute of Psychiatry, University of Missouri School of Medicine, St.Louis, MO Quantitative pharmaco-electroencephalography in early evaluation of psychotropic drugs. *Folia Psychiatrica et Neurologica Japonica (Tokyo)*. 25(3):195-202, 1971.

Electroencephalography as a method for monitoring the effects of psychotropic compounds on the central nervous system is discussed. SQ-11,290, a derivative of dihydrodibenzoxazepine, was predicted from animal pharmacology studies to be effective in anxiety syndromes, schizophrenic pathology, manic disorders, and agitated depressive states. The EEG profile of SQ-11290 proved that it is an effective major tranquilizer with sedative properties. Clinical trials reveal that the EEG is an extremely useful tool in the very early evaluation of new drugs, because it can determine central effectiveness in man, predict clinical value and effective single dosage ranges. 7 references.

## 17 MISCELLANEOUS

069516 Macaraeg, Placido V. J., Jr.; Lasagna, Louis; Blanchine, Joseph R. Division of Clinical Pharmacology, Department of Medicine, Johns Hopkins University, Baltimore, Maryland A study of hospital staff attitudes concerning the comparative merits of antibiotics. *Clinical Pharmacology and Therapeutics*. 12(1):1-12, 1971.

In an attempt to describe and explain doctors' preferences for antibiotics, a survey was performed in a major university hospital. A questionnaire was filled out by 75.1% (160) of the interns and residents on all the services in the hospital. In addition, every inpatient who received ampicillin during a period of 6 weeks was followed so as to compare actual utilization and performance of this antibiotic with the usage reported in the questionnaire. The results illustrate the diversity of motivations involved in the prescribing habits of the physicians surveyed and the serious disagreement between some of the practices and opinions of the house staff and those of infectious disease experts at the same institution. 21 references. (Journal abstract)

072698 Ban, T. A. Douglas Hospital, Montreal, Quebec, Canada Psychopharmacology and psychiatric practice in the seventies. *Canada's Mental Health (Ottawa)*. 19(1):8-12, 1971.

A brief overview of the development, acceptance, and impact of psychopharmacology and its effect on psychiatric theory and practice is presented. Psychopharmacology, introduced by chlorpromazine 17 years ago, is a revolution in psychiatry. It is now generally accepted that most mental patients can be treated without institutional care. Many psychoactive drugs with distinct pharmacodynamic properties have been synthesized and categorized as either psychopathics or psychotherapeutics. The psychopathic substances artificially induce psychopathological states, thus making them accessible to direct investigation. Psychotherapeutic drugs are differentiated(1) in terms of properties useful in treating neuroses; (2) substances with thymoleptic effects used for depressive conditions; and (3) antipsychotic drugs used for psychoses in general and schizophrenic pathology in particular. There are several schizophrenias characterized by their individual responses to different drugs. Also discussed are: the pharmacological regulation of man's periodic activities (sleeping, sex, eating)

and its importance in the research effort of the present decade; some aspects of psychopharmacology as it relates to drug abuse; and the importance of integrating the data of psychopharmacology with existing psychiatric knowledge. 3 references.

077416 Borenstein, P. Paris, France /Management of treatment./ Conduite de la cure. *Encephale (Paris)*. 60(1-Suppl.):14-18, 1971.

Treatment with Sulpiride is recommended for its sedative action without depression of mood (the patient is not aware of somnolence or the feeling of being drugged). Sulpiride is a quick acting neuroleptic with thymoanaleptic components and with relatively few side-effects, which can be corrected. Optimum dosage is between 400 and 600mg i.m. daily, the smaller doses being administered to females of low body weight. For a comparable effect, the oral dose must be, minimally, of twice the parenteral dosage (600 to 1200mg). To establish an oral maintenance dose the daily dosage must be decreased gradually and carefully controlled. Should there be a recurrence of symptoms the i.m. route is recommended. When used with other psychotropic drugs, these drugs must complement the action of Sulpiride and possibly mitigate any stimulative effects. In combination with diazepam, it is suggested that the i.m. route is more effective than the oral. Sulpiride may also be used in combination with sedative neuroleptics (thioridazine, levomepromazine, chlorpromazine) in low doses, particularly in the treatment of chronic psychoses. With a thymoanaleptic (amitryptilene) low doses are recommended.

077427 Marrazzi, Amedeo S. University of Missouri Institute of Psychiatry, St. Louis, Missouri 63139 Neuropsychopharmacology and experimental psychiatry: the evolution of a project--a progress report. *Schizophrenia*. 3(1):47-66, 1971.

A fundamental theory of the manner in which drugs can be expected to and do act on the brain has been evolved and has received support from experiments in animals and in man. The application and appropriate testing of this idea in mental disturbance has resulted in a basic concept of the nature of the disturbance. A practical application of the theoretical framework constructed has been

the devising and testing of a rational, objective (instrumental), quantitative test (a clinical yardstick) of mental health and illness and its responsiveness to therapy, that could bring to clinical practice the precision of the experimental laboratory. A new concept of the cellular nature of the learning and memory process has been proposed and awaits testing. Continued progress along the lines that have been pursued and the emphasis on investigating the brain cell membrane as the triggering site of cell functions and of their modification by nerve messages and drugs, promises further insights into the brain and mind, better brain drugs and methods of tailoring them, and improved understanding and care of disorders of the brain and mind. 56 references. (author abstract modified)

**077924** Davis, John M.; Fann, William E. Department of Pharmacology, Vanderbilt University, Nashville, Tennessee. *Lithium. In: Annual review of pharmacology. Palo Alto, Annual Reviews, 1971. 560 p. Vol. 11. (p. 285-302).*

Recent clinical studies in manic-depressives have been summarized and tend to show a high percentage of beneficial results in manic patients treated with lithium. Open studies in patients with atypical mania show that lithium is less ameliorative in these than in patients with typical mania. The effects of lithium upon brain amine metabolism and turnover have been studied in animals by following the fate of isotopes injected directly into the brain. In rat brain, lithium treatment shows an increased deamination of tritiated norepinephrine (NE) with a small decrease in tritiated NE content. Turnover of injected amine with synthesis blocked, shows a 95% increase without alteration in steady state NE brain levels. Lithium did not affect rate of depletion of dopamine or 5-hydroxytryptamine (5HT) produced by H-22/54, nor was the concentration of NE, dopamine or 5HT altered in brain. Feeding lithium to rats to achieve levels of 0.5 to 1.5 mEq/kg does not influence the rate of NE depletion; dopamine appeared to be slowed by lithium as was depletion of 5HT with tyrosine and tryptophan hydroxylase inhibition. Release of NE, 5HT, gamma-aminobutyric acid (GABA) and glutamate from electrical stimulated brain slices is decreased by lithium treatment, but is prevented by elevated calcium for NE but not for 5HT. Net uptake of NE, 5HT and metraminol by synaptosomes is increased by lithium pretreatment even

in the presence of reserpine. Comparative rates of excretion and serum levels of lithium in manic-depressive patients and controls indicate a difference in the handling of this agent. The effects of lithium on sodium and potassium metabolism and excretion rates of these electrolytes are discussed. 148 references.

**078100** DuPree, David. *Wall Street Journal*, 30 Broad Street, New York, New York 10004. **Pills for learning: dispute fails to halt use of drugs to calm hyperactive children.** *Wall Street Journal*. 177(19):1, 20, 1971.

Evidence is growing of the safety and effectiveness of amphetamines such as the stimulant drug Ritalin, in treating the serious effects of hyperkinesis. Such drugs have a calming influence when given to children although they are used as stimulants by adults. Typically, hyperkinesis disappears by adolescence whether or not drugs are given; the danger of withholding treatment is that the hyperactive child will lag in school, causing emotional problems that can linger to scar his life. Double-blind studies in which inactive placebos are used have confirmed that amphetamines do help the hyperactive child to learn. Medical findings show no danger in taking drugs under the right supervision. Experts warn against stimulants for emotionally disturbed children whose hyperactivity is caused by the stress of external events. Some physicians are concerned about misdiagnosis and the possibility of overuse of drugs. Although the subject remains an explosive one, the apparent success in treating children will help criticism of amphetamine treatment.

**078127** No author. Author address not given. McGill recognizes speciality of psychopharmacology by establishing new department. *Canadian Medical Association Journal (Toronto)*. 104(7):638, 1971.

McGill University's Department of Psychiatry has given recognition to the developing medical specialty of psychopharmacology with the establishment of a Division of Psychopharmacology with headquarters at Douglas Hospital, Montreal. Study of the mechanism of drug action and the psychophysiological behavior of psychiatric patients has long been a major field of research at Douglas Hospital. The new Division has already received 2 major grants for clinical investigations and has announced teaching plans for the current year.

078803 Parry, Hugh J.; Balter, Mitchell B.; Cisin, Ira H. Social Research Group, George Washington University, Washington, D. C. Primary levels of underreporting psychotropic drug use. *Public Opinion Quarterly*. 34(4):582-592, 1971.

A study reports on a methodological problem: the extent to which use of psychotropes is under-reported by various population subgroups and under various techniques of questioning. Comparative findings for antibiotic use are also reported. Validity of response appears to be highest among those currently using tranquilizers. Users of stimulants were particularly likely to give partly valid responses. Validity levels for psychotropes as a group are about 10% higher than for a control group of persons who had filled prescriptions for antibiotics currently. The use of special visual aids (color charts of psychotropic drugs) plus more intensive questioning appears to reduce levels of invalidity quite sharply, almost halving it. Factors associated with invalid response concerning psychotropic drug use are low education, uncooperativeness as noted by interviewers, sex (male), and language difficulties. 5 references. (Author abstract modified)

078957 Blackwell, Barry; Sternberg, Martin S. University of Cincinnati, Cincinnati, Ohio Trial management in psychopharmacology: the roles and tasks of an industry physician. *Journal of Clinical Pharmacology and New Drugs*. 11(2):83-90, 1971.

While the industry physician is the person most implicated in attaining satisfactory outcome of a drug study by the pharmaceutical company, the roles and tasks of the physician have never been adequately defined in psychopharmacology. The physician's roles include coordination and continuity, interest and enthusiasm, and detailed planning. His tasks in fulfilling his basic role are 5: development of an overall plan, the design of individual studies, the choice of investigators, the supervision of trials, and the collection and analysis of data. A review of the role of an industry physician in trial management is presented. The review has selectively emphasized those aspects particularly relevant to psychopharmacology. In the current research climate there are many occasions during evaluation of a new drug when the common observation and common sense approach and the industry physician's central role in organization and attention to detailed planning can help bring trials to a meaningful conclusion. 32 references. (Author abstract modified)

079314 Taylor, Michael Alan; Levine, Robert. 9309 Murillo Ave., Oakland, Calif. 94605 Influence of sex of hospitalized schizophrenics on therapeutic dosage levels of neuroleptics. *Diseases of the Nervous System*. 32(2):131-134, 1971.

A study is discussed in which drug dosage levels administered to acutely ill, hospitalized schizophrenic were reviewed and found to be influenced by sex and age. Male schizophrenics required less medication than female schizophrenics and females exhibited greater variability of drug dosage. Both sexes required more medication with increasing age, again the females requiring more than the males. These data are interpreted as reflecting an interaction between hormonal (androgenic) functions and abnormal schizophrenic metabolic activity. Renewed clinical trials with hormonal agents in the study and treatment of schizophrenia are suggested. 18 references. (Author abstract modified)

079455 no author. author address not given Stimulants and the hyperkinetic youngster. *Medical World News*. 12(10):34K, 1971.

The importance of objective clinical evaluations of the effects of stimulant drugs on the hyperkinetic child at home and at school is emphasized. Brief mention is made of certain cases where objective studies obtained different results than subjective impressions implied.

080564 Worrell, James B.; Bell, William E. Department of Neurology, University Hospitals, University of Iowa, Iowa City, Iowa 52240 Management of hyperactive behavior in children. *Northwest Medicine*. 70(1):43-46, 1971.

The mechanism, symptomology, and management of hyperactivity in children are discussed. Hyperactivity in childhood describes behavior and is not a diagnostic entity. It may be associated with a variety of other deficits of neurologic function or, less commonly, may be seen in children otherwise neurologically intact. Management of this difficult problem often includes drug therapy but cannot be limited to this approach if one hopes for a satisfactory outcome. Nonorganic hyperactivity does not respond well to drugs but should be managed through adjustment of personal interactions. Drugs should be chosen carefully and their effects monitored closely, if adverse effects are to be stopped before they become serious. 9 references. (Author abstract modified)

082713 Chun, George. 2801 Atlantic Avenue, Long Beach, California 90801 Marijuana: a realist approach. *California Medicine*. 114(4):7-13, 1971.

A realistic approach to marijuana must be adopted by physicians in order to avoid misinformation to the young people using this drug. Most of the marijuana in this country is either imported from Mexico or grown locally and its active ingredient, tetrahydrocannabinol (THC), varies from near zero to 1.5%, although in more tropical areas it is higher. Hashish can be up to 10 times stronger in effect, which explains why hashish can produce hallucinations. THC can be synthesized, and it was found that 9-THC accounts for most of the psychotropic action of marijuana. The material sold on the street under the name of THC sometimes contains methamphetamine, mescaline or LSD, but it usually turns out to be phenylcyclohexylpiperidine or PCP (sernyl, the 'peace pill'). Treatment for an overdose of synthetic THC should be based on symptoms. Cannabis products are usually smoked, synthetic THC being more effective when smoked than when ingested. Ingesting natural cannabis products causes more powerful effects. Subjective and objective effects of marijuana usage are described, including physical as well as mental processes. Marijuana is a nonlethal drug and, thus far, has not been shown to be addictive, to cause criminal behavior or sexual debauchery. It is smoked by young people for its relaxant effects, and its danger may lie in the introduction of the experimenting with stronger drugs. The truth about marijuana should be told, so that the young people will believe the warnings about the abuse of drugs in general. 43 references.

082735 Von Hilsheimer, G.; Klotz, S. D.; McFall, G.; Lerner, H.; Van West, A.; Quirk, D. Green Valley School, Orange City, Florida 32763 The use of mega vitamin therapy in regulating severe behavior disorders, drug abuses and frank psychosis. *Schizophrenia*. 3(1):67-73, 1971.

Deficiency diseases were observed in the children of migrants and child care was organized in a Florida agricultural base. When treated with vitamin supplements, it was revealed that, besides the disappearance of signs of malnutrition, other symptoms such as hyperactivity, irritability and crying were also reduced in children with no overt signs of malnourishment. Deficiency symptoms and behavior problems were further studied in a group of children in the slums of Manhattan

where a diet with a high proportion of vitamins was instituted. Among this group some unreachable schizophrenic patients were found, and nicotinic acid treatment was effected, in mega doses. Other patients thus treated included alcoholics and drug addicts. The effects of niacin therapy is discussed and some of the indications for dramatic improvement are cited. These include cardiac patients, and psychosomatic ills. The effect of a placebo like medication is discussed in this context. 10 references.

082736 Hoffer, A. 1201 CN Towers, First Avenue South, Saskatoon, Saskatchewan, Canada A vitamin B3 dependent family. *Schizophrenia*. 3(1):41-46, 1971.

A dependent condition on vitamin B3 is described in a father and 3 of his children. The father was given nicotinic acid to lower his cholesterol and to treat his paranoid personality. After being discharged from hospital where he was being treated for xanthomatoma on his eyelids, he continued the nicotinic acid and was cured of his eyelid trouble. He was subsequently diagnosed as paranoid schizophrenic, and was treated with LSD in a hospital setting. His experience with this drug corroborated his own opinion that he must indeed be a schizophrenic. A maintenance dose of 6mg per day of nicotinic acid was shown to control his symptoms. The oldest son, suffering from alcoholism, was also found to be schizophrenic and was given nicotinic acid treatment which served to control his schizophrenia. The other children, 2 girls, were also diagnosed as schizophrenic and controlled with nicotinic acid. Placebo effect of the medication is denied. 9 references.

082832 Mead, William B. Community Memorial Hospital of San Buenaventura, Ventura, California Evaluation of flurazepam. *New England Journal of Medicine*. 284(15):854, 1971.

In a letter to the editor concerning drug evaluation, the author states that he has been unable to substantiate many of the statements found in Roche promotional material with articles listed in the Roche bibliography or in the medical literature, concerning flurazepam (Dalmane). A Roche brochure states that the investigation program for flurazepam covered a 6 year period and involved over 2600 patients, but by checking footnotes and bibliographies, only a total of 164 patients were found mentioned in published studies. The

remainder of the 2600 patients are apparently from unpublished data on file with Roche. Concern is expressed that the conclusions printed in Roche promotional material cannot be evaluated. 6 references.

**082839** Kehoe, Michael J. Department of Psychiatry, University of Florida College of Medicine, Gainesville, Florida 32601 II. Major tranquilizers. *Southern Medical Journal*. 64(4):403-410, 1971.

The major tranquilizers such as the phenothiazines and the indole alkaloids, phenothiazine like drugs and lithium carbonate are reviewed from the clinical viewpoint. It is pointed out that prescribing the adequate drug for emotionally disturbed patients is only effective when the physician patient relationship establishes confidence in the medication. Another important factor in the efficacy of the drug is the status of the patient at the time of treatment. The 2 broad categories of tranquilizers are the major, identified with 'antipsychotic' action, and the minor, denoting 'a central depressant'. The indole alkaloids whose basic ingredient is reserpine are used to control actively disturbed patients, particularly schizophrenics, and have a hypotensive effect. The manner in which the phenothiazine derivatives, exemplified by chlorpromazine, produce tranquilization is discussed in terms of an 'adrenergic blockade' in the central nervous system, and some of the side-effects are enumerated. Because of the latter, a guide to phenothiazine therapy is briefly outlined. Lithium carbonate has been used successfully in the treatment of mania and, when used carefully, can be very effective in manic-depressive patients. Its use, however, must be carefully supervised clinically since it often produces serious effects. 20 references.

**082867** de Haen, Paul. New York, New York Drug Development-1970. *New York State Journal of Medicine*. 71(8):889-894, 1971.

The year 1970 saw both progress and upheaval in drugs: several hundred were withdrawn because of ineffectiveness and 110 new drugs were introduced. A review is given of several single drugs, such as Mesoridazine (Serentil), Meprednisone (Betapar), lypressin (Diapid) and carbenicillin. Combination drugs are currently under F.D.A. study for guidelines of safety, efficacy, synergism, etc. Also, the 13% of all drugs

marketed from 1938 to 1967 that have been withdrawn in 1970 are classified. The number of investigational new drug applications is regarded as an indicator of the present scope of clinical studies. The F.D.A. load work and cost of research both remain high, and although research today should concern itself with new drugs, old compounds should also be reevaluated with the aid of new experimental methods. 26 references.

**085292** no author. author address not given Effects of adrenergic blocking, agents on perceptual types in an autonomic conditioning paradigm (Unpublished paper). 1971. 17 p.

Results are reported on a study of the effects of adrenergic blocking agents on perceptual types in an autonomic conditioning paradigm. Specific emphasis was placed on the influence of alpha and beta adrenotropic blocking agents on a group of perceptually polar subjects. Results are presented from a multifactor factorial design and include analysis of electrodermal and cardiovascular data, heart rate changes during the first 5 second interstimulus interval, and plethysmograph deflections. Additionally the effect of conditioning an autonomic responsivity and the interrelationship and differences among various autonomic measures were analyzed within the framework of multivariate analysis of variance, and the results from the extinction period are listed.

**085332** Sargent, William. St. Thomas's Hospital, London, England Psychiatry: the impact of modern treatment. *World Medicine Review of the Year (London)*. February:21, 23-24, 1971.

The opinion is expressed that perhaps the most important psychiatric advance could be made in the coming decade by retreating from psychotherapeutic treatment and increasing research into the physiological and medical aspects of the treatment of depression. Failure of physicians to recognize depressive illness and to provide essential treatment is believed to be a factor in failure to prevent suicide, when medical assistance has been sought shortly before the suicide. Many other cases of depressive illness go untreated or misdiagnosed, pointing to the need for thorough training in the diagnosis and treatment of depressive illness. The use of one of the group of monoamine oxidase inhibitors, alone or in combination with one of the tricyclic antidepressants, with a minimum of psychotherapy, has been a great advance in the treatment of

depression. Electroconvulsive treatment in combination with antidepressant drugs has been effective in many cases. Other new treatments are discussed. It appears that progress has reached the half way point in treatment revolution of the greatest value in relieving some of the worst suffering in the world.

**085473 Domino, Edward F.** Department of Pharmacology, University of Michigan, Ann Arbor, Michigan Substituted phenothiazine antipsychotics. In: *Psychopharmacology, a review of progress, 1957-1967.* (p.1045-1056).

The psychopharmacology of substituted phenothiazine antipsychotics is reviewed. Many reviews have been prepared on these compounds, much is known about their divergent pharmacological actions, yet the reason for their effective antipsychotic action is not known. Much is known about the pharmacology of the substituted phenothiazines on short term administration, but very little is known about the specific pharmacological action or actions responsible for the antipsychotic effects on long term administration. Some possibilities are offered in this review. The chemistry of the compounds and a classification according to chemical structure are presented. The classification includes the subgroups: propylamino derivatives, propylpiperazine derivatives, and alkylpiperidyl derivatives. The major pharmacological actions, actions on the central nervous system, and interactions with monoamines are reviewed. 47 references.

**085597 Seidenberg, Robert.** Suite 1604, State Tower Building, Syracuse, New York 13202 Drug advertising and perception of mental illness. *Mental Hygiene.* 55(1):21-31, 1971.

The effect of drug advertising on the perception of mental illness is critically examined. Since the advent of psychotropic drugs for the treatment of mental illness, advertisements promoting their usage have provided a great financial advantage for psychiatric and medical journals and societies, in addition to leading to the establishment of a host of drug industry supported, gratuitously circulated, periodicals. It is contended that many of the advertisements in the above publications suggest the use of these drugs to psychiatrists as well as to other physicians as the treatment of choice before psychotherapy or possible social action, often for life situations and problems beyond the traditional medical and psychiatric concepts of ill-

ness or disease; this at the very time when such usage by the young and others is being roundly condemned by much of society, including organized medicine. It is also noted that much of the advertisements appear to subtly reinforce prejudices against women. 16 references. (Journal abstract modified)

**086525 Morris, Phillip A.** Psychiatrist, Kingsway Hospital, Derby, England A survey of prescribing patterns in common psychiatric conditions. *Practitioner* (London). 206(1235):669-672, 1971.

The prescribing habits of general practitioners is compared to those of psychiatrists in some common psychiatric conditions. The psychiatric states involved were anxiety, neurotic depression, endogenous depression, insomnia and agitation in the elderly. Forty eight general practitioners and 51 psychiatrists returned questionnaires. In anxiety states, 62.5% of general practitioners preferred chlordiazepoxide, while 54% of psychiatrists chose diazepam and 32% chlordiazepoxide. Amitriptyline was the first drug of choice of both groups for neurotic depression, whereas imipramine was preferred by 54% of general practitioners and by 36% of the psychiatrists. General practitioners chose nitrazepam by 31% for insomnia, while psychiatrists preferred the same drug by 46%. Chlorpromazine was the drug of choice in agitation states in the elderly. No one group of drugs has yet been developed as being effective in senile agitation and the general trend appears to favor the use of newer drugs, such as non-barbiturate hypnotics and tricyclic antidepressants instead of barbiturates and MAO inhibitors.

**086768 Cazzullo, C. L.; Goldwurm, G. F.** Department of Psychiatry, University Medical School of Milan, Milan, Italy Some critical considerations on human conditioning in psychopharmacology. *Activitas Nervosa Superior (Praha)*. 13(2):96-98, 1971.

The methods used in psychopharmacological studies in animal behavior are basically the classical or respondent conditioning of Pavlov and Skinner's operant conditioning. Although these 2 methods have been associated with higher mental activities (operant) and neurovegetative activity (classical) respectively, many authors consider these as complementing each other in most studies. Similar results are obtained with both types of techniques psychopharmacologically. In the design of experimental work, autonomic reactivity

was used for the examination of the lower levels, while verbal reactions corresponded to the characteristics of the highest level activity. In schizophrenics, correlations were studied between reflex and psychopathological data, both before and after neuroleptic treatment. In these studies, a depressed conditioned neurovegetative reactivity, better defense motor reactions and verbal associations were observed in the improved subjects. It is assumed that some neuroleptic drugs inhibit subcortical structures associated with unconditioned reactivity and facilitate protective inhibition. The efficient nonsedative neuroleptic drugs induce a deconditioning effect particularly evident upon recently acquired conditioned reflexes probably operating on structures involved in temporary connections and perhaps explaining their antidelusional action. A number of drugs are used together with psychotherapy to relax the patient or to facilitate communication. 35 references.

**087002 Kanig, K.; Oesterle, W.** Abteilung für Neurochemie der Universitäts-Nervenklinik, 665 Homburg/Saar, Germany /The effect of psychopharmacological compounds on brain metabolism./ Der Einfluss von Psychopharmaka auf den Gehirnstoffwechsel. *Pharmakopsychiatrie Neuro-Psychopharmakologie (Stuttgart)*. 4(3):105-122, 1971.

The metabolic effects of psychotropic drugs which have a relation to possibly disturbed metabolic pathways of endogenic psychoses are described. The normal metabolism of monoamines such as dopamine, noradrenaline and serotonin is described. A discussion of the effect of monoamine liberators, monoamine oxidase inhibitors (MAO-I), phenothiazines, butyrophenones and tricyclic antidepressants on the monoamine metabolism follows. The neuroleptic effect of reserpine and of benzocholinolizines is due to the inhibition of monoamine uptake into the stores. The stimulating effect of the MAO-I's is not only explained by the inhibition of monoamine oxidase but also by the influence on other enzymes. Neuroleptics block the synaptic membrane at the receptor site. The tricyclic antidepressants cause a noradrenergic and serotonergic 'difference effect', because they inhibit the uptake through the presynaptic membrane more than the release from the stores. Phenothiazines inhibit the utilization of energy more than the synthesis, the result being an 'economically depressed metabolism'. The total of adenine nucleotides increases as well as that of guanine nucleotides and flavin nucleotides.

This phenomenon is interpreted in connection with the extrapyramidal side-effects. Finally, the role of ATP during storage, release and effect of monoamines at the receptor site is discussed. Reserpine shows the same behavior as phenothiazines in the increase of total guanine nucleotides. The investigations to date on the influence of antidepressants on energy metabolism of the brain have yielded insufficient results for drawing definite conclusions. The influence of psychotropic drugs on tissue barriers and membranes such as the blood-brain barrier as well as membranes of the cell, subcellular particles and on other membrane components is discussed, and the biochemical effect of psychotropic drugs at the synapse (noradrenaline for example) is summarized. A block of the receptor site is correlated to an increase and a stimulation to a decrease of the monoamine turnover. 107 references. (author abstract modified)

**087351 Nieforth, Karl A.** Author address not given Psychotomimetic phenethylamines. *Journal of Pharmaceutical Sciences*. 60(5):655-665, 1971.

The synthesis, identification and assay, biological implications and structure - activity relationships of recent psychotomimetic phenethylamines is discussed. Greatest synthetic utility is made of the reaction between substituted aldehydes or olefins and nitroalkanes followed by reduction of resulting nitrostyrenes. Several schemes leading to the biosynthesis of mescaline are presented. Identification of these compounds by gas chromatography, fluorescence and a spectrophotometric method for mescaline is described utilizing the subject's urine. Drugs of this class must be able to penetrate the blood-brain barrier; of all the psychotomimetic phenethylamines, mescaline appears to be one of the least successful in this aspect. Cross-tolerance has been found to exist among these compounds and activity of mescaline at alpha-adrenergic sites as an agonist has been documented. The high potency of these drugs is reflected by an energetic highest filled molecular orbital, suggesting action as electron donors. 130 references.

**087865 van Praag, H. M.** Department of Biological Psychiatry, University of Groningen, The Netherlands The position of biological psychiatry among the psychiatric disciplines. *Comprehensive Psychiatry*. 12(1):1-7, 1971.

The precepts and objectives of biological psychiatry, that branch of psychiatry that concerns itself with the medical/neurobiological model, are discussed. The other 2 models on which psychiatry rests are the psychological/psychodynamic and the social sociological. So far in this century, abiological trends -- phenomenological, antropological, psychodynamic and sociological -- have had the upper hand in psychiatry. The great importance of restoring the tripartite character of psychiatry, the great importance of giving biological psychiatry a position of equality beside psychodynamic and social psychiatry is pointed out. A well balanced distribution of attention to the 3 fields would seem to be to the advantage of psychiatric training, practice, and progress. 11 references. (Author abstract modified)

**087867** Lennard-Jones, J. E. St. Mark's Hospital, London, England Analgesics and psychotropic drugs in the management of disease of the gut. *Practitioner (London)*. 206(1231):64-68, 1971.

The use of analgesics in certain acute or chronic abdominal illnesses and of drugs acting on the central nervous system in abnominal cases where psychological factors are important are discussed. Analgesics may be needed in 3 clinical situations: for relief of an acute crisis of pain, for treatment of chronic pain in long standing disorders, and for the management of pain in terminal illness. Certain disorders associated with an abnormality of structure, especially peptic ulcer and ulcerative colitis, are widely regarded as psychosomatic disorders. These conditions in general respond poorly to psychotropic drugs as the main line of treatment. When structural changes are absent, symptoms may be accounted for by a disorder of motor activity, of absorption, or of secretion demonstrable by appropriate techniques. Some of these functional disorders are apparently caused, aggravated or perpetuated by psychological factors. Such disorders are often best treated by a combination of a centrally acting drug with one acting peripherally. Some other clinically recognizable disorders appear to be a somatic manifestation of psychiatric illness and psychotropic drugs are an important aspect of treatment. 11 references.

**088142** Greenblatt, David J.; Shader, Richard I. Montefiore Hospital, New York, New York Meprobamate: a study of irrational drug use.

*American Journal of Psychiatry*. 127(10):1297-1303, 1971.

The history of the tranquilizer meprobamate illustrates how factors other than scientific evidence may determine physicians' patterns of drug use. Forceful advertising and publicity, an attitude of general optimism, and uncontrolled studies with favorable results combined to elevate meprobamate to the position of America's magic cure all tranquilizer. This drug remains in wide use despite a large body of sound scientific data that questions its efficacy. Today easy pharmacologic solutions to the stresses and tensions of life are often sought in place of more effective forms of mastery. This trend, which may not be a healthy one, is fostered by physicians who prescribe tranquilizers indiscriminantly. 72 references. (Author abstract)

**088295** Klein, Donald F.; Honigfeld, Gilbert; Feldman, Sydney. Hillside Hospital, Glen Oaks, New York Prediction of drug effect in personality disorders. Research Report, NIMH Grants MH-12273, MH-14514, 39 p.

A preliminary effort at describing clinical predictors of drug response in personality disorders and an approach to developing statistically validated prediction rules are presented. The following conclusions are drawn from the study: 1) drug therapy has a definite but limited place in the treatment of these conditions; 2) drug diagnosis interactions are now clearly established for both global clinical outcome and discrete qualitative outcome categories; 3) the consistently beneficial effects of chlorpromazine in emotionally unstable personalities and imipramine in pseudoneurotic patients is contrasted with the lack of drug responsivity in hysterical and passive-aggressive patients; 4) while the present investigation supports the predictive utility of diagnosis, the problem of interjudge unreliability is serious, requiring the development of new, objective, diagnostic methods; 5) an empirical, decision free method of generating psychiatric diagnoses by computer is described; and 6) the present data support the validity of these machine diagnoses showing drug diagnosis interactions of a similar magnitude to the criterion clinical diagnoses. Future work is outlined. 12 references. (Author abstract modified)

**088351** no author. author address not given Long-acting phenothiazines in schizophrenia. *British Medical Journal (London)*. No. 5742:189-190, 1971.

The mainstays of therapy for schizophrenia are the phenothiazine drugs, but ensuring that patients take their medication regularly is difficult. Therefore, it is not surprising that the long acting preparations of fluphenazine, fluphenazine enanthate and fluphenazine deconate are being more widely used in outpatient clinics. The side effects of the long acting preparations are similar to those of oral fluphenazine and other piperazine derivatives. However, the effects seem to be especially common in the early days of treatment after which they gradually decrease. 12 references.

**089129** Egli, H. Kantonale psychiatrische Klinik, CH-8596 Munsterlingen /Experience with lithium prophylaxis of recurrent emotional disorders in a psychiatric outpatients' clinic./ Erfahrungen mit der Lithiumprophylaxe phasischer affektiver Erkrankungen in einer psychiatrischen Poliklinik. *Schweizerische Medizinische Wochenschrift (Basel)*. 101(5):157-164, 1971.

In a psychiatric outpatient clinic an assessment was carried out in 70 patients with recurrent emotional disorders who had been given prophylactic lithium treatment since 1967. Statistical evaluation of 45 patients showed a highly significant reduction of episodes under lithium treatment. The action of lithium was found to be equally impressive in subjects suffering from subclinical episodes only. The subjective impression of the patients also provided majority confirmation of the effectiveness of the prophylaxis. The relapses, some of which were probably due to a too low serum lithium concentration, were analyzed. The side-effects of lithium are relatively frequent but usually transitory, and seldom necessitate discontinuation of the prophylaxis. Two instances of neurologic complications are described. 10 references. (author abstract)

**089319** Webb, William L. Hospital of the University of Pennsylvania, Philadelphia, Pennsylvania The use of psychopharmacological drugs in the aged. *Geriatrics*. 26(6):95-103, 1971.

The combination of drugs and the interaction between biological and psychological variables may have confusing effects in the aged person. The possibility of organic cause for agitation often seen in these patients must be considered as well as the previous history of drug use. Agitation may also be caused by environmental stimuli, such as unfamiliar surroundings or some friction with the family. In selecting a drug for disturbed

behavior, 3 major categories are described. The antianxiety agents are primarily central nervous system depressants, sedative in moderate doses and hypnotics in higher doses, and include the minor tranquilizers and the barbiturates. They have a narrow therapeutic range in old people and must be administered with caution. The antidepressant agents range from central stimulants such as dextroamphetamine for mild reactive depressions, and the tricyclics or monoamine oxidase inhibitors and thioridazine for moderate or severe depressions. Patients may respond to one antidepressant in preference to another, and the treatment may be modified accordingly. Antipsychotic agents, phenothiazines, butyrophenones, thiothixenes and rauwolfia derivatives, are principally employed in acutely psychotic and elderly chronic schizophrenics. Acute states of agitation from senile psychosis or delirium may require phenothiazines. Side-effects in all drugs must be carefully controlled, although at times they must be employed despite the side-effects, for example in the psychotic depressed patient. 44 references.

**089881** Greene, Charles S.; Laskin, Daniel M. University of Illinois College of Dentistry, Chicago, Illinois Meprobamate therapy for the myofascial pain-dysfunction (MPD) syndrome: a double-blind evaluation. *Journal of the American Dental Association*. 82:587-590, 1971.

Patients experiencing the symptoms of pain, tenderness, clicking, and limitation of function, which characterize the myofascial pain dysfunction (MPD) syndrome have been subjected over the years to a variety of therapeutic measures. An investigation was made of the effectiveness of meprobamate in treatment of the MPD syndrome. Of the 90 patients studied 58% reported some improvement after taking the drug, and 31% after taking a placebo. The subjective symptoms were reported as improved most frequently, whereas the more objective symptoms seemed less affected by either the meprobamate or the placebo. 30 references. (Author abstract)

**093270** Irwin, David S.; Weltzel, William D.; Morgan, Donald W. Department of Psychiatry and Neurology, U.S. Army Hospital, Fort Jackson, South Carolina Phenothiazine intake and staff attitudes. *American Journal of Psychiatry*. 127(12):1631-1635, 1971.

Patterns of patients' failure to use prescribed phenothiazine medications in various treatment situations, as determined by means of the Forrest rapid urine color tests are covered. It further examines the hypothesis that these patterns are related to staff attitudes concerning phenothiazines. An unexpected finding was that significantly more outpatients on thioridazine (55%) than on chlorpromazine (15%) were not taking minimal amounts of medication. Staff attitudes regarding the usefulness of antipsychotic medications were also studied. The principal factor governing patient intake of medication appeared to be the amount of direct patient supervision. 18 references. (Author abstract modified)

093579 no author. author address not given New research on cannabis. *British Medical Journal (London)*. No. 5757:293-294, 1971.

New research on cannabis is reviewed. It is felt that research in the United States has become more refined due to precise measurement of cannabis dosages. It was concluded that future experimental design will take into account prior cannabis experience and will study social aspects of drug taking and determinants of societies response to it. 11 references.

093646 Vondracek, Vladimir. Psychiatrischen Klinik, Karls-Universität, Praha 2, Ke Karlovu 11, Czechoslovakia /Historical and biological aspects of psychochemistry./ Die Psychochemie in historischer und biologischer Sicht. *Psychiatrie, Neurologie und medizinische Psychologie (Leipzig)*. 23(5):257-265, 1971.

All psychic processes have chemical origins and they cause further chemical processes. J. W. Thudichum can be thought the initiator of psychochemistry at the end of the Nineteenth century. In this study, a bridge is spanned from the mythologic magic potions to modern psychopharmacology; the term encephalics is suggested for substances with a general effect on the brain. Up to now the psychopharmacology have been of great therapeutic importance but they are only regulative remedies. New drugs must be found which really correct the false chemistry that causes mental disease. 23 references. (Journal abstract modified)

093860 Linn, Lawrence S. University of Southern California School of Medicine, Los Angeles, Calif. Physician characteristics and attitudes toward

legitimate use of psychotherapeutic drugs. *Journal of Health and Social Behavior*. 12(2):132-140, 1971.

A study found that physicians held a range of attitudes toward the appropriate use of 2 widely prescribed psychotherapeutic drugs, Dexedrine and Librium. It was also found that their evaluations of such drug use were likely to be related to characteristics reflecting values, social position, or social background than characteristics reflecting medical or scientific background. The findings strongly suggested the need to investigate further the role and importance of such social factors in the prescribing habits of physicians. 21 references. (journal abstract modified)

094122 Osborn, Maria-Livia; Delay, Jean; Deniker, Pierre. Cliniques des Maladies Mentales, Paris, France Clinical perspectives in psychopharmacology. *Modern Perspectives in World Psychiatry*. 2:620-636, 1971.

Clinical perspectives in psychopharmacology are reviewed. The discussion includes: problems of classification and nomenclature; investigations in pharmacodynamics; perspectives of biochemical psychiatry; chemotherapy of the psychoses, dealing with neuroleptics and antidepressants. Risks, shortcomings, and future aims are also mentioned and considered. 18 references.

094689 Edwards, Ralph. Educational Development, Kingsborough Community College The use of drugs in the search for a human aphrodisiac experience. *Journal of Drug Education*. 1(2):137-145, 1971.

A review of man's search for sexual pleasure through the aid of drugs and other substances is delineated. While myths prevail that drugs create the sexual libertine spirit, scientific evidence indicates that no known drug serves as an aphrodisiac. Alcohol and other drugs may be used in moderate doses to temporarily free sexual desire, lower inhibitions, and reduce anxiety. A drug, however, cannot by itself cause an individual to engage in sexual behavior that would otherwise be abhorrent to him. Excessive use of drugs usually is accompanied by diminished sexual interest and performance. L-Dopa and P-chlorophenylalanine are the latest substances used where there have been claims of human sexual improvement. The reputed causal relationship between drugs and sex, however, appears to be inconsistent and quite secondary to psychological and emotional factors. 9 references. (Author abstract)

094703 Dewald, Paul A. Dept. of Psychiatry, St. Louis University School of Medicine, St. Louis, Missouri The therapeutic process: the use of drugs. In: Dewald, P., *Psychotherapy: A Dynamic Approach*. 2nd ed. New York, Basic Books, 1971. 322 p. (p. 263-272).

The psychological effects of drug administration can be understood in dynamic concepts as part of the overall patient therapist relationship. As with other elements and phenomena of the relationship, interactions in connection with the giving and taking of drugs may be invested by the patient with a variety of conscious and unconscious reactions and responses. The use of drugs in insight directed treatment entails a departure for the therapist from the neutral participant observer role. But there may be time during such treatment when the administration of such drugs is indicated. In supportive therapy, the use of drugs is extremely common, and the tactical interventions concerning them should be consistent with the overall therapeutic strategy. Consideration is given to use of a placebo to induce a purely psychological response in the patient, and this tactic is termed unwise for a number of reasons. Psychological and physical hazards of drug therapy are discussed. 5 references.

095007 Pitts, Ferris N. Washington University School of Medicine, St. Louis, Missouri Biochemical factors in anxiety neurosis. *Behavioral Science*. 16(1):82-91, 1971.

A review of biochemical factors in anxiety neurosis is presented from the viewpoints of the history of development of the concept of anxiety neurosis and the clinical picture and natural history of the disorder. Many studies of physiological and biochemical differences between anxiety neurotics are briefly reviewed. The production of anxiety attacks in susceptible individuals with the infusion of beta adrenergic agonists (isoproterenol, epinephrine) and the end product of their activation of the anaerobic glycolytic pathway (lactate) is covered in detail, with emphasis on the evidence for this phenomenon. The prevention of such episodes by calcium ion and beta-adrenergic blockage by propranolol is discussed. The challenging prospects for the future clarification of the chemical mechanism of expression of anxiety symptoms (and attacks), as well as the future of chemotherapy of anxiety, is examined. 56 references. (Author abstract modified)

095301 Kormendy, Ch. G.; Bender, A. D. Bristol Laboratories, P.O. Box 657, Syracuse, N. Y. 13201 Chemical interference with aging. *Gerontologia (Basel)*. 17(1):52-64, 1971.

Studies are reviewed which reflect only a modest and conceptually limited beginning in gerontological pharmacology. Germane to the future course of research is whether prolongation of either mean or maximum life span brings about a true deceleration of the overall aging process or only in certain biological functions. Prolongevity without efficacy, that is without the addition of useful years, is merely an academic exercise. Hence, it is suggested that agents which prolong life span should also be tested in the laboratory for their ability to modify those functional parameters which are known to change significantly with age. To list a few, these might include measuring rates of de novo protein (enzyme) synthesis, properties of collagen, and antigen antibody response. Furthermore, it is believed that a scientific attack on specific age associated decrements in mental and physical function could serve a useful and practical purpose. 45 references. (journal abstract modified)

095313 no author. author address not given Hal-dol (haloperidol). *American Family Physician*. 4(2):148, 1971.

A review is presented of a new drug, haloperidol, which is indicated for the treatment of a variety of symptoms associated with mental illness. Specifically, the drug is effective in the treatment of agitation, anxiety, hostility, delusions, hallucinations, and hyperactivity when these symptoms are manifestations of schizophrenia, manic illness, or psychotic reactions related to organic brain syndromes or mental retardation. The drug is contraindicated for severely depressed patients and is not approved for use in children. Its use in pregnancy and lactation has not been adequately evaluated and attendant risks should be carefully weighed. As is true of other major tranquilizers, cases of bronchopneumonia have followed the administering of haloperidol. Other precautions are described -- for example, care in the drug's use with severe cardiovascular disorders -- and adverse reactions discussed in detail.

095532 Levine, Jerome; Schiele, Burtrum C.; Bouthillet, Lorraine. National Institute of Mental Health, Chevy Chase, Maryland Principles and

problems in establishing the efficacy of psychotropic agents. Washington, U.S. Government Printing Office, 1971. 392 p. \$3.25.

Seventeen chapters on the methodology of psychotropic drug evaluation studies are presented. Problems and design of studies with schizophrenics, depressives, manics, anxious patients, geriatric patients, children, persons with personality disorders, alcoholics, and those with drug dependent states are discussed, as are the design, documentation, and interpretation of clinical trials. BLIPS, an information processing system for clinical drug evaluation, is described, and rationality and decision processes in establishing and assessing the efficacy and safety of psychotropic agents are discussed. 512 references.

095533 Cooper, Joseph D. Howard University, Washington, D.C. Rationality in the assessment of psychotropic drug efficacy. In: Levine, J., *Principles and problems of psychotropic agents*. Washington, U.S. Government Printing Office, 1971. 392 p. (p. 13-27).

Four principles are suggested as a framework within which the more technological processes of the assessment of psychotropic drug efficacy can be carried out. These principles are: 1) the protection of the public as the major aim of drug evaluation should be balanced by a greater stress on helping the public to achieve improved care through chemotherapy. 2) A philosophy of control is needed which stresses least control for maximum effect. 3) Regulatory decision making should draw upon professional inputs in greater measure in determining suitability of drugs for human application. 4) A total systems approach should be developed which affords maximum opportunity for the surfacing, recognition, and feed-in of realities derived from environmental and situational encounters.

095534 Lasagna, Louis. University of Rochester School of Medicine and Dentistry, Rochester, New York Decision processes in establishing the efficacy and safety of psychotropic agents. In: Levine J., *Principles and problems of psychotropic agents*. Washington, U.S. Government Printing Office, 1971. 392 p. (p. 29-50).

The variables involved in going from one decision making level to the next in the development and introduction of a drug into clinical practice are discussed. Topics considered are: selection of

a compound for clinical trial by theoretical constructs, experimental analogs, molecular modification empirical screening, or folk remedies; early human trials; early therapeutic trials; formal controlled trials; additional premarketing experience; postmarketing surveillance; the economics of pharmaceutical innovation; informed consent; the placebo and double-blind controls; and sponsorless drugs and drugs of limited applicability. 12 references.

095535 Klett, C. James; Cole, Jonathan O. Central NP Research Laboratory, Veterans Administration Hospital, Perry Point, Maryland /Establishing the efficacy of psychotropic agents: methodology./ Introduction. In: Levine, J., *Principles and problems of psychotropic agents*. Washington, U.S. Government Printing Office, 1971. 392 p. (p. 53-57).

An overview of the topic of methods for evaluating clinical drug efficacy in psychopharmacology is presented. Some types of research which are the investigator's response to problems that arise are described, as are the general principles which are common to the research with all patient types. Methodology includes strategic issues, tactical issues, logistic issues, and book-keeping matters. Methodology for specific drug studies must differ widely and must never become static.

096018 Kellner, Robert. Intramural Services, Bernalillo County Mental Health Center, Albuquerque, New Mexico Outlines of the management of common psychiatric crises and emergencies in the community. *Psychosomatics*. 12(3):191-199, 1971.

Research evidence in psychology and psychiatry is examined and applied to the management of crises. The evidence suggests that patients in different diagnostic categories require different type of crisis care. In acute schizophrenia there is no evidence that verbal psychotherapy shortens the episode, whereas there is considerable evidence that antipsychotic medication is effective. Probably it is inappropriate to give intensive verbal psychotherapy in acute schizophrenia as part of crisis care. In endogenous depressions, tricyclic antidepressants are the treatment of choice. If the supervision at home is adequate the patient can be managed in the community. 72 references. (journal abstract modified)

098400 Bond, Douglas D.; Braceland, Francis J.; Freedman, Daniel X.; Friedhoff, Arnold J.; Kolb, Lawrence C.; Lourie, Reginald S. School of Medicine, Case Western Reserve University, Cleveland, Ohio Biochemistry and pharmacology. In: Bond, D., *The year book of psychiatry and applied mental health*. Chicago, Year Book Medical Publishers, 1971. 415 p. (p. 38-76).

A selection of animal and human studies of biochemistry and pharmacology, culled from recent medical literature, is presented with some editorial comments. Various topics included are: the interaction between biologic, psychologic and environmental factors and their influences on development and behavior; information storage; biologic roots of various psychiatric syndromes and the possibility of abnormal biochemical functions producing them; pathogenesis of depressive reactions; psychotomimetic drugs and their uses; narcotics and alcohol; the use of psychotropic drugs on biochemical and physiologic symptoms. 57 references.

098691 Lipsitt, Don R. Mount Auburn Hospital, 330 Mount Auburn Street, Cambridge, Massachusetts 02138 The relevance of psychoactive agents to psychotherapy. *Psychiatric Quarterly*. 45(1):76-86, 1971.

The controversy over the role of psychoactive agents in psychotherapy is examined in terms of drug use and bias among psychiatrists, Freud's influence on the therapist's attitude toward drugs, and the multiplicity of meanings drugs have for both the patient and psychoanalyst. Several case histories are presented to illustrate the importance of drugs in psychotherapy. 7 references.

099013 Pauling, Linus. Stanford University, Palo Alto, Calif. 94305 Orthomolecular psychiatry. *Schizophrenia*. 3(2):129-133, 1971.

The use of substances normally present in the human body for improving health, and especially mental health, of human beings has been unjustifiably ignored by the medical profession for 30 or 35 years. Some of the history of use of vitamins against disease is traced with emphasis on Szent-Gyorgi's work with vitamin C, and Rosenberg's work with vitamin B12. Most human beings are suffering from hypoascorbemia. It may be that the optimum rate of intake of vitamin B3 is larger than the 17mg per day now recommended, but this does not appear to be the case for most people. Very large quantities of all vitamins but vitamin A and vitamin D may be in-

gested without producing symptoms of toxicity or serious side reactions. Electroshock therapy is compared with the primitive method of hitting the patient on the head with a club to rearrange the brain. Work on an instrument to determine the quantities of 200-300 substances in blood, urine or body fluid samples is noted. We have in our bodies the mechanism for helping to protect the brain from the environment. Megavitamin therapy may work by changing blood - brain barriers that are working too efficiently. Both practitioners and researchers will cooperate to further advance this form of treatment and understanding of how and why it works.

099027 Stille, G.; Hipplius, H. Forschungsinstitut der Dr. A. Wander A. G., Monbijoustrasse 115, CH-3001 Bern, Switzerland /Critical commentary on the concept of neuroleptics (based on pharmacological and clinical findings with Clozapine)./ Kritische Stellungnahme zum Begriff der Neuroleptika (anhand von pharmakologischen und klinischen Befunden mit Clozapin). *Pharmakopsychiatrie Neuro-Psychopharmakologie (Stuttgart)*. 4(4):182-191, 1971.

The cataleptic effect, the inhibition of pharmacogenic stereotypes and conditioned reflexes have been the pharmacological characteristics of drugs which are therapeutically active against schizophrenia. Such substances are known as neuroleptics. The term was coined by clinicians as an abbreviation for a certain clinical activity pattern whereby therapeutic actions (antipsychotic effect) and certain side effects (extrapyramidal motor effect) were taken for granted. The demonstration of an antipsychotic effect with clozapine, for which the above mentioned pharmacological effects and extrapyramidal effects are absent, makes it doubtful whether effects in the animal equivalent to the antipsychotic effect and the corresponding characteristic side effects in man have been detected at all. Only when classical neuroleptics are dealt with, do the cataleptic effects in animal experiments and the extrapyramidal motor side effect during therapeutic use have some value as indicator phenomena. The goal of psychopharmacological research must be to develop new substances with therapeutic efficacy against the symptomatology of schizophrenia. This is not synonymous with the continual search for new classical neuroleptics by which a single side effect has already been incorporated into the definition of the concept. 27 references. (Author abstract modified)

100829 Hom, Foo Song; Miskel, John J. author address not given Enhanced dissolution rates for a series of drugs as a function of dosage form design. *Lex et Scientia*. 8(1):18-26, 1971.

The importance of oral dosage form design on dissolution rates is illustrated. The drugs used in the study were chosen to represent a number of chemical and pharmacological classes. They were hydrochlorothiazide, primidone, chloramphenicol, chlorthiazide, chlorpropamide, dapsone, griseofulvin, nitrofurantoin, p-hydroxyphenylbutazone and prednisolone. The 10 drugs, as soft elastic gelatin capsule dosage forms were manufactured using the continuous rotary die process. The drugs were suspended in polyethylene glycol 400 USP or various polyols along with 1-3% of a nonionic surfactant for encapsulation. In some cases the dispersion vehicle was a nonionic surfactant or mixture of nonionic surfactants. Commercial tablets were purchased on the open market with the exception of the chloramphenicol tablets which were manufactured in the laboratory. Properly formulated soft elastic capsules exhibit rapid dispersion and dissolution after initial fill release. Hence, relatively insoluble drugs, when properly formulated in soft elastic capsules, will tend to have greater dissolution rates than tablets. Proper vehicle, solubilizer and surfactant apparently help to enhance drug dispersion, solubility and potential absorption rate of the relatively insoluble drugs. 23 references. (Author abstract modified)

101076 van Krevelen, D.Arn. Scheveningseweg 3, 's-Gravenhage, Holland Observations about the use of psychopharmaca in child psychiatry. *Acta Paedopsychiatrica (International Journal of Child Psychiatry) (Basel)*. 38(2):47-59, 1971.

The use of psychopharmacology in child psychiatry is discussed with consideration given to the psychological aspects of drugs. Drugs commonly used in child psychiatry are classified as: psycholeptics with a depressing effect on the CNS; psychoanaleptics which stimulate CNS activity; psychodysleptics or hallucinogens. Effects and uses of each group of drugs are discussed and specific examples are given. The difficulty of choosing the right drugs for treating children is stressed. Drugs are not necessarily efficacious in child psychiatry merely because they are effective with adults. 19 references.

101214 Eisenberg, Leon. Psychiatry Department, Massachusetts General Hospital, Boston, Massachusetts 02114 Principles of drug therapy in child

psychiatry with special reference to stimulant drugs. *American Journal of Orthopsychiatry*. 41(3):371-379, 1971.

The principles of drug therapy in child psychiatry are discussed, with special reference to the use of stimulant drugs. Four problem areas are examined as related to this type of therapy: (1) lack of concrete experimental support for such drug therapy with children and consequent difficulties in ascertaining the benefits which could be achieved through their clinical use; (2) concern over long-term effects; (3) problems in evaluating the real existence and nature of psychopathology in children, who do not normally volunteer themselves for treatment; and (4) the social consequences of misuse of psychopharmacological treatment without seeking the underlying cause of the disturbance. Implications of these issues for medical ethics and in the selection of child patients for drug therapy are discussed, emphasizing the strict methods and supervision required. Finally, it is suggested that the physician in any given case must weigh the risk of drug toxicity and side-effects against the cost of taking no positive action at all or against alternative treatments. The administration of drugs, particularly the stimulants, when given appropriately constitutes only one part of the total treatment program aimed at the child's healthy development. 23 references.

102101 Andrews, P.R.; Buchanan, A.S. Dept. of Chemistry, Univ. of Melbourne, Parkville, Victoria 3052, Australia Association of CNS active drugs with 9-ethyladenine. *Biochemical Pharmacology (Oxford)*. 20(7):1599-1605, 1971.

The association constants for the dimerization of a series of beta, beta-disubstituted glutarimides, and for the association of these CNS active molecules with 9-ethyladenine, have been measured in chloroform using an infrared method. All of the associations are cyclic and changes in the substituent groups which markedly effect physiological activity do not significantly influence the observed association constants. The results support a possible mode of action for the glutarimides in the respiratory chain, but do not explain their convulsant or anticonvulsant activities. 16 references. (Author abstract)

102141 Cohn, Howard D. Ciba Pharmaceutical Company, Summit, New Jersey Methylphenidate and minimal brain dysfunction. *New England Journal of Medicine*. 285(20):1150, 1971.

A rebuttal by the Ciba Pharmaceutical Company is offered in response to a letter concerning the use of methylphenidate in the treatment of minimal brain dysfunction in children. It refutes: 1) a criticism of the references cited by Ciba in an advertisement for the product, 2) an allegation that Ciba has embarked on an extremely expensive and skillfully designed advertising campaign for the product, and 3) comments concerning the ill defined nature and rarity of the disorder in question. The difficulty of defining and diagnosing minimal brain dysfunction or hyperkinesis is emphasized. 4 references.

**102448** Morse, Robert M. Mayo Clinic and Mayo Foundation, Rochester, Minnesota. *Drugs, physicians and the 'medical model.'* *Minnesota Medicine*. 54:912-913, 1971.

The problem of the person who is drug dependent requires and deserves a multidimensional approach. Alternatives to the more traditional psychosocial therapies, which correctly emphasize peer group confrontation and support, plus a chemical free existence, must be scientifically explored. Some of the alternatives now in various stages of experimentation and acceptance include the selective use of disulfiram (Antabuse) as well as antidepressants and tranquilizers for alcoholism, cyclazocine and naloxone (narcotic antagonists) for opiate dependence, and methadone maintenance programs also for narcotic addiction. These approaches, when combined with adjunctive rehabilitative measures, seem to hold considerable promise. They also demand an integration of pharmacology with an understanding of the whole person. This is the medical model. Physicians must meet the challenge thrust upon them by the drug abuse problem and assume their share of the responsibility for its solution. 3 references.

**102589** Thurlow, H.J.; Girvin, J.P. Department of Community Medicine, University of Western Ontario, London, Ontario. Use of anti-epileptic medication in treating 'flashbacks' from hallucinogenic drugs. *Canadian Medical Association Journal (Toronto)*. 105(9):947-948, 1971.

A case history is presented to illustrate the use of antiepileptic medication in managing a case of recurrent visual hallucinations (flashbacks) following LSD use. Chlorpromazine therapy diminished intensity, frequency, and affective component of the flashbacks. Discontinuation of chlorpromazine brought exacerbation of flashback. Diphenylhy-

dantoin therapy markedly reduced all types of flashback. Discontinuation of this drug after 8 months caused no exacerbation of flashback symptoms. That these flashback phenomena are epileptic in nature is, of course, not precluded by the lack of a clearcut epileptogenic EEG focus, even more particularly when sphenoidal or pharyngeal recording leads were not used and while the patient was on anticonvulsant medication. On the other hand, the clinical history and the response to diphenylhydantoin therapy strongly suggest that in this patient the hallucinations represented cerebral seizure activity. With the full realization that a single case does not prove a general point, this particular case is presented to raise the possibility that hallucinatory flashback phenomena resulting from the use of hallucinogenic drugs may represent seizure activity, and that anticonvulsant medication may be of value in their management. 13 references.

**102596** Appleton, William S. Massachusetts Mental Health Center, 74 Fenwood Road, Boston, Mass. 02115. *Psychoactive drugs: a usage guide. Diseases of the Nervous System*. 32(9):607-616, 1971.

A usage guide of psychoactive drugs is presented to help the practicing physician in prescribing psychotropic drugs. Although based primarily on carefully controlled, double-blind studies, some uncontrolled clinical observations by acute clinicians are included to avoid statistical sterility. Tabular data are provided on phenothiazines, butyrophenones, thioxanthenes, rauwolfia alkaloids, antipsychotic agents not available in the US, drugs used in the treatment of depression (including tricyclic derivatives, MAO inhibitors, and stimulants), antianxiety drugs (minor tranquilizers), lithium carbonate, and other miscellaneous drugs. 17 references.

**102612** Fish, Barbara. New York University School of Medicine, New York, N.Y. Treating hyperactive children. *Journal of the American Medical Association*. 218(9):1427, 1971.

Treatment of hyperactive children with central nervous system stimulants is discussed. When such treatment works, it provides economical and rapid treatment which can return the child to more normal functioning both in and out of school. However, to perpetuate the simplistic idea that all hyperactive children simply require stimulant medication, is to neglect the fact that many

of these children require specific remediation for learning disabilities, that others require more potent medication, and that still others need attention to social and psychological problems which are impeding normal growth and development. 2 references.

102711 Semenov, S.F.; Medvedev, Ia.V.; Chuprikov, A.P.; Kamenskaja, V.M. Moskovskii nauchno-issledovatel'skii institut psikiatrii MZ RSFSR, Moscow, USSR /On therapy for diencephaloallergic syndromes./ O terapii diencefal'no-allergicheskikh sindromov. In: Semenov, S., *Voprosy kliniki i terapii psikhicheskikh zabolevanii*. Moscow, Ministerstvo Zdravookhraneniia SSSR, 1971. 276 p.(p. 214-219).

In 100 patients with various allergic diseases and a clearly expressed clinical picture of diencephalic pathology, the specific pathology of the diencephalolimbic system was investigated. Electroencephalographic data revealed diffuse organic disorders of electrical irritation. The course of treatment included administration of pirogenal in isolation and in combination with gangleron. General improvement was observed in 71% of the patients and essential improvement in 67%. The obtained results indicate the effectiveness of the pathogenetic approach to the treatment of allergic conditions.

102715 Klimusheva, T.A.; Ruzhanskii, M.I. Moskovskaja gorodskaja psikhiatricheskaja klinicheskaja bol'nitsa No.15, Moscow, USSR /On the clinical picture of the so-called psychopathic-like syndrome in adolescent girls./ K klinike tak nazываемого psikhopatopodobnogo sindroma u devochek-podrostkov. In: Semenov, S., *Voprosy kliniki i terapii psikhicheskikh zabolevanii*. Moscow, Ministerstvo Zdravookhraneniia SSSR, 1971. 276 p.(p. 238-241).

The clinical picture of 26 adolescent girls with psychopathic-like syndrome revealed early development of personality shifts, tendency to fantasizing, and in the 13 patients with an indolent schizophrenic course, early loss of emotional ties with their mothers. Treatment was conducted with aminazine, aminazine in combination with sulfozin, and hypoglycemic dosages of insulin with injections of aminazine. In the 6 patients with organic disorders of the central nervous system, hypersexuality was noted much earlier. Psychoorganic symptoms, explosiveness, decrease in intellect and memory, dysphoria, and cerebroasthenic

disorders dominated the clinical picture. The patients were treated with aminazine in combination with sulfozin in conjunction with dehydration therapy. In the 7 oligophrenic patients, retardation of mental development began at an early age, lack of sexual inhibition was manifested later and often coincided with the onset of menstruation, and the clinical picture showed unique infantilism, tendency to fantasizing, limited judgment and imagination, and slight suggestibility and subordination. Aminazine treatment here was frequently combined with administration of tranquilizers and general supportive therapy.

102797 Sotsevich, G.N. Moskovskii nauchno-issledovatel'skii institut psikiatrii MZ RSFSR, Moscow, USSR /Experience with the use of niamid in psychiatric practice./ Opyt primeneniia niamida v psikhiatricheskoi praktike. In: Semenov, S., *Voprosy kliniki i terapii psikhicheskikh zabolevanii*. Moscow, Ministerstvo Zdravookhraneniia SSSR, 1971. 276 p.(p.268-273).

The antidepressive and stimulating action of nialamide (niamid) and other hydrazine preparations is connected with the ability of these preparations to depress the effects of monoamine oxidase and to store serotonin in the central nervous system without having a toxic influence on the organs' parenchyma. Nialamide was administered orally to 38 patients between the ages of 23 and 62. In all cases, depressive disorders in isolation or in combination with other psychopathological manifestations dominated the mental condition. Nialamide was found particularly effective for the treatment of hypochondriacal syndromes progressing with cenesthopathies within the framework of schizophrenia and other nosologic forms. It had a satisfactory effect in mild depressions of varying genesis which were combined with somatic insufficiency or disease syndromes. The small degree of toxicity of the preparation allows for its usage in combination with neuroleptics.

102826 Ivanova, R.V. Moskovskii nauchno-issledovatel'skii institut psikiatrii MZ RSFSR, Moscow, USSR /On the pharmacotherapy of epilepsy in children./ O farmakoterapii epilepsii u detei. In: Semenov, S., *Voprosy kliniki i terapii psikhicheskikh zabolevanii*. Moscow, Ministerstvo Zdravookhraneniia SSSR, 1971. 276 p.(p. 144-149).

Suppression of the center of pathological excitation in epilepsy in children and avoidance of

the spreading of the excitatory process to other structures of the brain can be achieved with medicinal treatment, which is subdivided into antiepileptic treatment and treatment with other preparations, and with the aid of other methods of nonmedicinal therapy. One of the main conditions for the achievement of a favorable therapeutic effect is the approach to the selection of method and medicinal preparations. To ascertain the correct treatment, an analysis of previous treatment must be made to determine the cause of the worsened condition of the patient. In the treatment of epilepsy, paroxysmal conditions can be eliminated with a minimal therapeutic dosage. To obtain the greatest effectiveness with the least toxicity, new preparations should be included into the therapeutic complex only after the dosages of drugs indicated earlier have been established. In childhood, the greatest frequency of shuddering, nodding, and other lightning-like paroxysms are observed upon awakening without regard to the time when sleep began. Epilepsy with this kind of paroxysmal states requires a specific combination of drugs.

**102828 Pleshko, A.M.** Moskovskii nauchno-issledovatel'skii institut psikiatrii MZ RSFSR, Moscow, USSR /On the treatment of patients with narcolepsy./ O lechenii bol'nykh epilepsiei sna. In: *Semenov, S., Voprosy kliniki i terapii psikhicheskikh zabolevanii*. Moscow, Ministerstvo Zdravookhraneniia SSSR, 1971. 276 p.(p. 132-136).

The existence of principles for combined treatment of narcolepsy, based upon its clinical and electrophysiological peculiarities, is significant for the achievement of stable therapeutic remissions, regulated flow of sleep phases, and complete elimination of convulsive paroxysms. In 41 narcoleptic patients, the usually extensive epileptic attack, arising primarily during night sleep, occupied the central place in the clinical picture. In the establishment of a therapeutic plan it was vital to consider the features unique to the clinical manifestations of narcolepsy and the nature of the sleep course. Results of treatment indicated that the most effective drugs were preparations with limited soporific action, such as carbamazepine. Anticonvulsive treatment was initiated with a single dosage at night immediately before sleep. After the disappearance of side effects, a favorable therapeutic effect was usually obtained. The most stable results followed administration of carbamazepine, hexamidin, and chloracon.

**102830 Pozdniakov, V.S.** Moskovskaya gorodskaya psikhiatricheskaya bol'nitsa No.5, Moscow, USSR /Influence of aminazine on the adaptation of the cardiovascular system in epileptic patients./ Vlianie aminazina na adaptatsiiu serdechno-sosudistoi sistemy u bol'nykh epilepsiei. In: *Semenov, S., Voprosy kliniki i terapii psikhicheskikh zabolevanii*. Moscow, Ministerstvo Zdravookhraneniia SSSR, 1971. 276 p.(p. 152-154).

Neuroleptics, and aminazine in particular, change the reactivity of the organism in patients with epilepsy. Roentgenologic data obtained from a study of cardiovascular adaptation in 55 epileptics indicate that changes in the cardiovascular system in epilepsy are functional and serve the purpose of adapting the organism to the load created by frequent convulsive attacks. The more frequent the attacks, the more expressed is the roentgenologic hypertrophy. The combination of aminazine with anticonvulsants significantly improves the functioning of the cardiovascular system.

**102832 Ban, Thomas A.** Division of Psychopharmacology, McGill University, Montreal, Quebec, Canada Nicotinic acid and psychiatry. *Canadian Psychiatric Association Journal (Ottawa)*. 16(5):413-431, 1971.

In reviewing the current status of nicotinic acid therapy in psychiatry it was noted that apart from pellagra and the encephalopathy of nicotinic acid deficiency, no other nicotinic acid responsive clinical psychopathology has been successfully and definitively identified to date. On the basis of theoretical considerations a number of hypotheses were formulated and the therapeutic activity of nicotinic acid was tested in a variety of clinical conditions. In none of these conditions was it possible to obtain consistently significant therapeutic changes with nicotinic acid; nor was it possible to identify clinical indicators of therapeutic effectiveness. On the other hand no clinical trials in carefully selected biochemically homogeneous populations, employing biochemical indicators, have been completed as yet. Without the results of these studies the therapeutic potential of nicotinic acid in psychiatry cannot be considered fully evaluated. There is sufficient evidence for believing that similar psychopathological manifestations can result from a variety of pathogenic factors and that the same pathogenic factor can produce a variety of psychopathological manifestations. Since it is well known that an insufficient supply of nicotinic acid

may lead to a variety of psychopathological manifestations, it is indeed conceivable that the administration of nicotinic acid may be useful in various clinical psychopathological syndromes. 95 references. (Author abstract modified)

**103047 Girdwood, R.H.** University of Edinburgh, Department of Therapeutics, Royal Infirmary, Edinburgh, Scotland Modern drug treatment and potential hazards to health. *Scottish Medical Journal (Glasgow)*. 16(8):350-356, 1971.

The potential hazards to health of modern drug treatment are discussed. Several major areas of consideration are presented: 1) fundamental problems with therapeutic agents, including ineffective treatment due to lack of potent therapy, adverse effects from a therapeutic dose, overdose, the agent's ceasing to be effective, other therapeutic agents also rendered ineffective, unforeseen side effects, proprietary names; 2) environmental problems; 3) drug interactions; 4) the patient's condition modifying his response to a drug, including impaired intake, absorption, metabolism and excretion, hypersensitivity, genetic variation, changing response with age; 5) the possibility of a drug modifying a patient's response to another disease; 6) special problems; and 7) staffing problems. 10 references.

**103172 Tinklenberg, Jared R.** Stanford Univ.School of Medicine, Stanford, Calif. A clinical view of the amphetamines. *American Family Physician*. 4(5):82-86, 1971.

A clinical view of amphetamines is presented and the information is generally applicable to nonamphetamine stimulants as well. It is noted that amphetamines are useful for hyperkinesis in children with central nervous system dysfunction. Amphetamines can help people function during short periods of depression or unusual stress and are effective in transiently curbing appetite though tolerance soon develops. Patterns of use and abuse are reviewed. Treatment of amphetamine users and long term management in chronic use is included. Prevention through education is felt to be the most effective method of dealing with amphetamine abuse. (Author abstract modified)

**103237 May, Philip R.A.** University of California at Los Angeles, Los Angeles, California Psychotherapy and ataraxic drugs. In: *Bergin, A., Handbook of psychotherapy and behavior change*. New York, John Wiley, 1971. 957. (p.495-540).

The current position of ataraxic drug use in relation to formal psychotherapy is reviewed in terms of a comparison of the effectiveness of these 2 manifestly different forms of intervention and what is known of their usefulness in combination. Findings from a research study in the treatment of schizophrenia are presented, along with a discussion of theoretical issues and the contributions of the basic sciences to knowledge in this area. Implications for treatment and treatment programs, as well as for future research, are noted. Two types of ataraxic drugs are distinguished: major ataraxics and antidepressants, or minor tranquilizers. Historical thinking among psychoanalysts concerning drug therapy is traced and current opinions regarding its hazards reported. Criticisms include possible development of dependency, transference, and resistance to subsequent psychotherapy. Factors in the patient's attitude and psychological makeup must also be considered, and social class appears to be a major determinant in the choice of treatment. Results of a number of controlled studies of outcome with psychotic inpatients, mixed inpatients, mixed outpatients, and neurotic outpatients are discussed. 200 references.

**104025 Jensen, Graeme R.** Pleasant View Assessment Centre, Preston, Victoria, Australia Postoperative management of a narcotic addict. *Medical Journal of Australia (Sydney)*. 2(10):524-525, 1971.

The physician treating the known narcotics addict in apparent pain must first establish that the patient's pain is genuine, being caused by an organic problem, and then, if surgery is required, prescribe medication that will mitigate the addict's pain without causing him to become readdicted. In a case study presented, the physician treated an established female narcotic addict who developed a painful physical illness for which she ultimately required operative treatment. Postoperative management with 'Fortral' (pentazocine) provided adequate analgesia without reactivating addiction. 8 references. (Author abstract modified)

**104558 Shapiro, Arthur K.; Shapiro, Elaine.** Placebo Studies Laboratory, Payne Whitney Clinic, N.Y.Hospital - Cornell Medical Center, 525 E.68th St., New York, N.Y. 10021 Clinical dangers of psychological theorizing: The Gilles de la Tourette Syndrome. *Psychiatric Quarterly*. 45(2):159-171, 1971.

The harmful consequences of substituting psychological theory for careful clinical observation is outlined. A patient with a 33 year history of Tourette's Syndrome who was finally successfully treated with haloperidol is presented to illustrate the erroneous reading of symptoms and dangerous consequences resulting from the medical vogue of attributing psychological cause to diseases of unknown etiology. A general discussion of the etiology of the syndrome and comments on other case histories are included. 37 references. (Author abstract modified)

104741 Alstott, Rosemary Lester. Indiana University Studies of the combined effects of caffeine and ethanol. (Ph.D. dissertation). *Dissertation Abstracts International*. Ann Arbor, Mich., Univ.M-Films, No.71-17441 HC\$10.00 MF\$4.00 153p.

A study using rat and rabbit subjects was made to investigate some performance, toxicological, metabolic, biochemical and histopathological results of concurrent administration of caffeine and ethanol. The general performance studied in Ss indicated an impairment of performance that was significantly greater after caffeine plus ethanol than after ethanol alone. Studies on the disappearance rates of both caffeine and ethanol, in the rabbit, show that the rates of biologic transformation of each drug remain unchanged when they are administered concurrently. Toxicity studies in rabbits and mice show that the effects of caffeine and ethanol are additive in causing death, but when 1-methylxanthine was administered to mice, a biphasic toxic interaction became apparent which changed from antagonism to synergism as the proportion of ethanol increased. The additive effects of caffeine in the rabbit were further seen in the results of enzymatic activity determinations and histopathological studies. It is believed that the results yield important information about the possible pharmacological and toxicological implications for the humans who consume both compounds. (Journal abstract modified)

105040 Spenader, Wayne F.; Schwamberger, Barbara V. author address not given The treatment of acute alcoholism in a small rural hospital. *Illinois Medical Journal*. 140(5):508, 530-531, 1971.

A simplified plan for the treatment of acute alcoholism with diazepam was used on 41 cases with uniformly good results. Diazepam does not increase the central nervous system effects of al-

cohol; it effectively controls agitation, beligerency, and convulsions; and reduces the tremulousness and shaking of acute alcoholism. The drug can be administered by intravenous, intramuscular, or oral routes in large enough doses to control the abnormal behavior patterns of the acute alcoholic. Two case studies describing successful diazepam treatment of alcoholism are presented. 2 references. (Author abstract)

105554 Freyhan, Fritz A. New York /Critical review of Anne E.Caldwell's 'Origins of psychopharmacology from CPZ to LSD.' no title. *Comprehensive Psychiatry*. 12(4):389, 1971.

Anne E.Caldwell's 'Origins of psychopharmacology from CPZ to LSD' is criticized for inaccuracies and for romanticizing some historical figures, particularly Laborit. The work is said to cover a great deal of ground in telling the success story of chlorpromazine, but is rambling, romantic and frequently at odds with historical facts. It may make interesting reading to experts in psychopharmacology who want to share the admiration and enthusiasm of the author for Laborit. It cannot be recommended to a general audience interested in psychotropic drugs because of many inaccuracies and one sided comments and interpretations.

106098 Stika, L.; Vinar, O. Department of Neurology, Pod Marjankou 83, Prague 6, Czechoslovakia Neuro- and psychotropic drugs in prescriptions of physicians in the district Prague 6. *Activitas Nervosa Superior (Praha)*. 13(3):232-233, 1971.

Data obtained through automated analysis of the medical prescriptions in a district of Prague were analyzed to determine which neurotropic and psychotropic drugs were prescribed by physicians and who received these prescriptions. Analgesics were the leading drug in the number of units prescribed, whereas anxiolytics were the drug prescribed the most frequently for strictly psychiatric diagnoses. Meprobamate was the most frequently prescribed drug, even in comparison with the predominant analgesic. 4 references.

106099 Vinar, O.; Zamecnik, L. Institute of Psychiatry, Prague 8-Bohnice, Czechoslovakia Prescriptions of psychiatrists working in Prague polyclinics. *Activitas Nervosa Superior (Praha)*. 13(3):235-237, 1971.

Analysis of prescriptions by psychiatrists working in outpatient polyclinics in some districts of Prague shows a wide range of the relative numbers of prescriptions in the majority of groups. The range was always greater between districts than within a single district. The explanation of this fact may reflect the reason for which patients seek psychiatric help in different districts as well as the indoctrination of psychiatrists within a given district. Anxiolytics were the most common class of drug prescribed, and diazepam was the most frequently prescribed single drug. 6 references.

**106159** Aharan, Charles H. Lake Erie Regional Office, Addiction Research Foundation, London, Ontario, Canada Human problems and chemical solutions. *Addictions (Toronto)*. 18(4):23-28, 1971.

Emotional stability is characterized by the ability to cope in the presence of pain. The goal of treatment for emotionally disturbed people should not be making them comfortable or reducing their pain, but encouraging them to utilize their own resources to face the realities of their lives. Treatment of the emotionally disturbed which is based on the narrow medical model is inclined to pay much more attention to the patient's comfort and to aim at immediately reducing his discomfort, often through the use of chemical substances. In order to evaluate the role of drugs in a chemical age the question of what is good for man must be raised. Attempting to escape through drug use, whether the drug is alcohol or tranquilizers or barbiturates or marihuana or heroin will be pointless. Facing problems directly, seeking enduring values, is more difficult and more rewarding.

**106367** Fass, Grace. author address not given Sleep, drugs, and dreams. *American Journal of Nursing*. 71(12):2316-2320, 1971.

Individualized planning for rest periods and

sleep can be as therapeutically important to the health of a patient as the medications and treatments prescribed by the physician. Few of the pharmacologic agents used for this purpose have been found to promote an unaltered pattern of sleep stages. The type and quantity of sleeping medication administered to a patient must be evaluated carefully by the physician and the nurse on the basis of recent drug and sleep study data. It is important for the nurse to be aware of any problems the patient has had with sleep in the past, his usual bedtime routine, and his previous use of sleeping medication and other sleep inducing measures. Early efforts to personalize patient care at bedtime might prevent or neutralize sleep problems. 22 references.

**107597** Ballinger, Brian R.; Stewart, Michael J. Dundee Psychiatric Service, Royal Dundee Liff Hospital, England The drug history of psychiatric admissions. *British Journal of Psychiatry (London)*. 119(553):607-608, 1971.

The pattern of drug treatment in psychiatric patients at the time of admission and various accounts of the patients' treatment were surveyed. The patients' accounts of treatment, the general practitioners' accounts of treatment, and analysis of barbiturates in the patients' blood were compared and contrasted. The results indicate that inconsistencies occur in various accounts of patients' drug treatment.

**107872** Lacey, J.H. Department of Psychiatry, St. George's Hospital, Tooting, London S.W.17, England Dichloralphenazone and breast milk. *British Medical Journal (London)*. 4(5788):684, 1971.

The administration of drugs to nursing mothers affects not only the mother but also the infant, if the drug is secreted in breast milk. Modified narcosis with chlorpromazine and dichloralphenazone was begun in the case of a lactating neurotic

mother aged 20 years old who suffered severe tension during the day and insomnia at night. The patient was depressed and had very severe symptoms since the birth of her child 5 months prior to her admission. She was physically normal and was encouraged to breast feed in the hope that this action would aid her recovery. In the body, dichloralphenazone is reduced to trichlorethylalcohol, which produces the central depressant effect. On the second day of registration of the trichlorethanol level of maternal plasma and milk following dichloralphenazone administration, no trichlorethanol was detected in the plasma of the baby, and no chlorpromazine was found either in the milk or serum of the patient. The growth, activity, and development of the infant during this period were normal except that the infant appeared to be slightly more drowsy in the early morning, when the highest drug concentrations were recorded. Three months after cessation of the drug, the baby was still well. 4 references.

108268 Jacobs, Martin A.; Spilken, Aron Z.; Norman, Martin M.; Wohlberg, Gerald W.; Knapp, Peter H. Boston University School of Medicine, 80 East Concord St., Boston, Massachusetts 02118 Interaction of personality and treatment conditions associated with success in a smoking control program. *Psychosomatic Medicine*. 33(6):545-556, 1971.

Of a total of 104 men who were heavy smokers (minimum of a pack, and averaging 35 cigarettes a day) and who participated in a 10 week program to break the habit, the majority received group therapy, and the remainder were seen individually. Each S was randomly assigned to 1 of the following drug conditions: no pills, placebo, lobeline, dextroamphetamine and imipramine. Pretesting established each S as a good or poor risk to stop smoking. Results indicated that, both at the end of treatment and at followup 3 months later, group was superior to individual therapy, treatment without drugs was more effective than taking medication (especially for high risk cases), and low risk did better than high risk Ss. Successful Ss stayed in treatment longer than did failures. Relapse was associated with life situations of loneliness, passivity, boredom, tension and personal tragedy. The best predictor of resistance to relapse was the abrupt and complete breaking of the habit during the first 2 weeks of the program ('cold turkey'). 17 references. (Author abstract modified)

108270 Linn, Lawrence S.; Davis, Milton S. Department of Community Medicine, University of Southern California, Los Angeles Calif. The use of psychotherapeutic drugs by middle-aged women. *Journal of Health and Social Behavior*. 12(4):331-340, 1971.

An effort to define the prevalence of psychotherapeutic drug use within a sample population of middle-aged women and to analyze use in terms of social, cultural, medical and environmental factors is reported. Evidence is offered that the social and cultural dynamics of therapeutic drug use among a sample of middle-aged women are similar to those identified in studies of the use of marihuana among college students. 15 references.

108525 Garattini, Silvio; Goldin, A.; Hawking, F.; Kopin, I. J.; Schnitzer, R.J. Istituto de Ricerche Farmacologiche, 'Mario Negri,' Milan, Italy Advances in pharmacology and chemotherapy. New York, Academic Press, 1971. 357 p. Vol.9.

A collection of papers on advances in pharmacology and chemotherapy is presented. The topics covered include: the pharmacology of rapid eye movement sleep; the pharmacology of peripheral auditory processes and cochlear pharmacology; biochemical mechanisms of transferable drug resistance; the pharmacology of propanediol carbamates; and drug effects and learning and memory processes.

108716 Hadwiger, Lee A.; Martin, Arnold R. Department of Plant Pathology, Washington State University, Pullman, Washington 99163 Induced formation of phenylalanine ammonia lyase and pisatin by chlorpromazine and other phenothiazine derivatives. *Biochemical Pharmacology (Oxford)*. 20(12):3255-3261, 1971.

Results are presented from a study of induced formation of phenylalanine ammonia lyase and pisatin by chlorpromazine and other phenothiazine derivatives. Chlorpromazine and 16 other phenothiazine derivatives induced up to 11 fold increases in phenylalanine ammonia lyase activity and the de novo synthesis of up to 200 micrograms pisatin per g of pea pod tissue. The induction of phenylalanine ammonia lyase was dependent on new RNA and protein synthesis and was accompanied by increased synthesis of an array of cellular proteins. 26 references. (Author abstract modified)

**109315 Klett, James.** NP Research Laboratory, VA Hospital, Perry Point, Maryland Cooperative studies in mental health and behavioral sciences. *Newsletter for Research in Psychology*. 13(4):4-6, 1971.

A program of cooperative studies in mental health and behavioral sciences, in conjunction with treatment of psychiatric patients, has been progressing for 17 years in the Veterans Administration hospital system. Sixteen major cooperative studies have been completed, 2 studies are underway, and 2 projects are continuing a series of early drug screening studies. Some of the recent investigations involve maintenance chemotherapy for chronic schizophrenia, typology for psychotics, and evaluation of lithium carbonate in the treatment of affective disorders. Several previous studies were concerned with the treatment of chronic alcoholism and its acute effects as well as the usage of antiparkinsonian drugs in chronic schizophrenia.

**110156 Mulligan, A.F.; O'Grady, C.P.** Rubery Hill Hospital, Birmingham, England Reducing night sedation in psychogeriatric wards. *Nursing Times (London)*. 67(35):1089-1091, 1971.

An assessment of the requirements of 6 psychogeriatric wards for sedatives and hypnotics was made. Medication needs of 102 patients were reviewed. Remedies other than drugs were applied to cure some sleeplessness. Results indicate a large reduction in the numbers of hypnotics/sedatives used (from 854 to 4) over an 8 week period. This reaction was maintained for 6 months. The following benefits are noted: (1) with the time saved from the hypnotic/sedative round the nurses can devote more time to the patients who require more intensified nursing care; (2) a more positive nurse - patient relationship is fostered; (3) the self-confidence of the nursing staff in the application of their psychiatric nursing skills is increased; and (4) in the evacuation of patients from the wards (in the case of fire or such like emergency) is rendered easier as they would be more responsive and mobile than if awoken from a hypnotic/sedative induced sleep. (Author abstract modified)

**110462 Janowsky, David S.; Fann, William E.; Davis, John M.** Tennessee Neuropsychiatric Institute, Central State Psychiatric Hospital, Nashville, Tenn. Monoamines and ovarian hormone-linked sexual and emotional changes: a review. *Archives of Sexual Behavior*. 1(3):205-218, 1971.

Evidence is reviewed indicating that menstrual cycle psychopathology may be mediated by the effects of estrogen, progesterone and possibly the renin-angiotensin-aldosterone system is on the brain monoamines, norepinephrine, dopamine, and serotonin. During the menstrual cycle, psychopathology often begins with the onset of luteal estrogen, progesterone, angiotensin, aldosterone, secretion and intensifies as these hormone levels later fall, prior to and during menstruation. There are numerous reports of affective upsets occurring with the use of estrogen, progestin oral contraceptives and following their withdrawal. Contraceptives stimulate the renin-angiotensin-aldosterone system and are reported useful in alleviating premenstrual and menstrual emotional upsets and postpartum depressive episodes. Affective lability, prevalent at parturition, occurs when estrogen, progesterone, and aldosterone levels are first high and later falling. Much information links manic and depressive reactions with alterations in brain monoamines. Lithium, monoamine oxidase inhibitors, and tricyclic antidepressants, are reported useful in treating ovarian hormone linked upsets. Similarities exist between changes in animal behavior caused by drugs altering affective states and the effects of ovarian hormones. The effects of reserpine, monoamine oxidase inhibitors, tricyclic antidepressants, and lithium on monoamines in neurophysiological preparations have been used as evidence supporting theories linking monoamine changes with human affective disorders. Estrogen, progesterone, and angiotensin also exhibit effects on in vitro monoamine systems. The information provides clues that ovarian hormone linked psychopathology, like affective disorders in general, may be related to alterations in brain monoamines. 94 references. (Author abstract modified).

**110844 Weiss, J.L.; Chase, T.N.** Neurology Unit, Laboratory of Clinical Science, NIMH, Bethesda, Md. 20014 Levodopa in Parkinsonism. *Drugs (Basel)*. 2(4):257-261, 1971.

The discovery and use of levodopa as an effective therapeutic agent for the treatment of Parkinson's disease is reviewed. Particular reference is made to: early clinical trials; the biosynthesis of dopamine from dietary amino acids; animal studies which traced the path and biochemistry of the drug; human response to the drug including side-effects; and the value of basic research to clinical medicine. 4 references.

111004 Damasio, Antonio R.; Lobo-Antunes, Joao; Macedo, Carlos. Lisbon Faculty of Medicine, Lisbon, Portugal Psychiatric aspects in parkinsonism treated with L-dopa. *Journal of Neurology, Neurosurgery and Psychiatry (London)*. 34(5):502-507, 1971.

The psychiatric aspects of patients with parkinsonism treated with L-dopa are described. These include acute psychosis in patients with or without previous psychiatric illness and worsening or improvement of preexisting psychiatric conditions. Therapeutic management is discussed. The relevance of these studies to the understanding of the psychiatric aspects of Parkinsonism in general is analyzed. 24 references. (Author abstract)

111877 Jucker, Ernst. author address not given *Progress in drug research*. Basel, Birkhauser Verlag, 1971. 395 p. Vol.15.

A collection of papers surveys current progress in drug research, and it is noted that the research is in a state of transformation: reconsideration in the light of the past and reorientation with a view to the future. Specific topics considered include: ayurvedic medicine; the psychotomimetic agents; pharmacology of clinically useful beta-adrenergic blocking drugs; understanding drug potency; basic research in the American pharmaceutical industry; cyclopropane compounds of biological interest; and drug action and assay by microbial kinetics. An author and paper index is also included for volumes 1 through 15 of the series.

111878 Cohen, Sidney. Division of Narcotic Addiction and Drug Abuse, National Institute of Mental Health, Chevy Chase, Maryland 20015 The psychotomimetic agents. In: Jucker, E., *Progress in drug research*. Basel, Birkhauser Verlag, 1971. 395 p. (p.68-102) Vol.15.

Characteristics and actions of psychotomimetic agents are reviewed with a view toward discovering more about their impact on mental processes and cerebral mechanisms. Definitions and epidemiology are first discussed, followed by classification of various drugs in the category. Some emphasis is placed on lysergic acid diethylamide (LSD), with a survey of its pharmacology, psychophysiology, psychological effects, and psychotherapeutic efforts. Complications of psychotomimetic agents are also considered. 113 references.

111998 Neumeyer, John L.; Shagoury, Richard A. Department of Medicinal Chemistry and Phar-

macology, College of Pharmacy, Northeastern University, Boston, Mass. 02115 Chemistry and pharmacology of marihuana. *Journal of Pharmaceutical Sciences*. 60(10):1433-1457, 1971.

A very detailed, critical review of marihuana chemistry and pharmacology is presented. Topics discussed include nomenclature and numbering system of cannabinoids, chemical research on cannabis (chemistry of the natural cannabinoids, isolation and structure elucidation of naturally occurring cannabinoids, synthesis of naturally occurring and structurally modified cannabinoids, and structure - activity relationships in cannabinoids), biogenesis, metabolism and disposition (synthesis of labeled cannabinoids, elimination and distribution of tetrahydrocannabinoids), qualitative and quantitative analysis of cannabis constituents, and pharmacology of cannabinoids (animal, human, quantitation of dose in relation to clinical phenomena, and a summary of pharmacologic effects in man). 211 references.

112083 Lader, Malcolm. author address not given */Psychopharmacology/ A young science*. *Nature (London)*. 233(5320):504, 1971.

The isolation of psychopharmacology from other disciplines such as neuropharmacology, psychophysiology, and neurochemistry is discussed. One reason for this may be that most new psychotropic drugs were discovered by serendipitous accident. Despite 20 years of research, the clinical relevance of the pharmacological actions which have been found remains unproven. Thus, psychopharmacology has remained a loose federation of disciplines rather than a coherent subject. Two recent books on psychopharmacology are reviewed. (Author abstract modified)

113926 Detre, Thomas P.; Jarecki, Henry G. author address not given *Modern psychiatric treatment*. Lippincott, 1971.733p.L12.50.

Modern psychiatric treatment is defined and discussed including papers as recent as 1970. Emphasis is on drug treatment because psychological and social treatments are less satisfactorily described in research sources.

113928 Delkman, Arthur J. 15 Muir Avenue, Mill Valley, California 94941 Phenothiazines and the therapist's fear of identification. *Journal of Humanistic Psychology*. 11(2):196-200, 1971.

Several categories of staff anxiety and the way in which the dispensing of phenothiazines to patients helps reduce that anxiety is discussed. A primary source of anxiety lies in the unpleasantness of empathizing and identifying with the psychotic patient. The fear of identification and contagion on the part of the staff member is central to the problem of communicating with the psychotic patient. The psychotic patient with a negative attitude towards being helped puts a strain on the would-be therapist. The patient also shows extreme dependence which can be tempered by the use of drugs. 5 references.

115196 Madow, L.; Snow, L.H. no address The psychodynamic implications of the physiological studies on psychomimetic drugs. Springfield, IL, Charles C Thomas, 1971. 81 p.\$7.75.

Five essays dealing with the behavioral effects of the psychomimetic drugs (particularly LSD) and marihuana on humans are presented. Based on previous studies, these works delve into the reasons (both societal and individual) for the widespread use of hallucinogenic drugs and marihuana in our population and the effects of these drugs on higher sensory and cognitive functions of the brain. Several of the essays attempt an analysis of the action of these drugs on behavioral function, both conscious and unconscious, in psychologic rather than neurophysiologic terms. Some insights are offered into the reasons for the disapprobation of society towards these drugs.

115887 Medlicott, R.W.; McInnes, E.J.; James, N.McI. no address Drugs in psychiatry. Dunedin, New Zealand, John McIndoe, 1971. 46 p.free.

An overview of drugs used in psychiatry is presented which outlines indications, dosage and side-effects of the drugs. The problems associated with pharmaceutical treatment of disorders which vary in severity and tend to chronicity are discussed.

116023 no author. no address Marihuana studies. *Medical Journal of Australia* (Sydney). 2(25):1261-1264, 1971.

A review of research and the state of the information on marihuana (*Cannabis sativa*) is presented. Pharmacological, psychological, and physiological aspects are discussed. The association between marihuana and progression to other drugs is discussed. 22 references.

120970 Mason, Edward. no address Medicines, the media and the menace. *American Journal of Psychiatry*. 128(4):498-499, 1971.

In a letter to the editor, an article on the rational use of meprobamate is discussed. Forceful advertising and publicity are included among the reasons for wide usage of the drug. Examination of any issue shows that forceful and colorful ads for use of various tranquilizers or antidepressants are quite common in most medically oriented journals. Although the medical journals need the advertising revenue from such ads, physicians have the responsibility of finding some acceptable middle ground. It is suggested that the editors and publishers of all learned journals demand the same dignity and conservatism in advertisements as they require of an original manuscript.

121102 Small, Joyce G.; Millstein, Victor; Small, Iver F. Larue D. Carter Memorial Hospital, Indiana University School of Medicine, 1315 West Tenth Street, Indianapolis, IN A contingent positive variation. *Diseases of the Nervous System*. 32(12):818-821, 1971.

A contingent positive variation was demonstrated in normal subjects under exceptional circumstances. Previously, this variation had been seen only in psychiatric patients. An experiment was conducted in which 10 normal adults were recruited to take an experimental drug, lithium carbonate, for a 4 week period. Prior to their participation in this study the subjects were impressed with the potential risk of taking this chemical substance. They had to agree to ingest the drug as directed, to endure repeated venipunctures and evaluations of physical status and possible side effects, and also to participate in EEG recording sessions. Active lithium carbonate was given in maintenance levels only for 3 weeks and placebo capsules were substituted in the last week. EEG recordings and amplitude profiles of the study are discussed. 11 references.

121849 Cazals, P. Hopital Purpan, Medecine Nord, C.H.U., 31-Toulouse, France /Action and role of sulpiride in the treatment of abdominal pain syndromes associated with psychiatric problems./ Action et place du sulpiride dans le traitement des syndromes douloureux abdominaux associes a des troubles psychiques. *Therapeutique* (Paris). 47(9):827-829, 1971.

Abdominal pains, occurring in the absence of positive radiologic or biologic findings, are described in five cases demonstrating the follow-

ing features: the polymorphic character of the pains, the occurrence of paroxysmal pains at odd intervals, the accompanying symptoms of nausea and vomiting, the absence of general signs, the coexistence of psychiatric problems (anxiety, irritability), and the Mediterranean origin of the subjects. The patients were treated with 100mg sulpiride (Dogmatil), b.i.d., i.m. for 15 to 30 days. The results revealed an overall amelioration of digestive symptoms (disappearance of nausea and vomiting, diminution of frequency and intensity of pain), and a regression in anorexia. On the psychiatric level, there was a diminution in anxiety and irritability and an amelioration in the mental outlook. Radiologic examination revealed some diminution in the mucous folds similar to gastritis. Oral administration of the drug during long-term followup therapy is recommended in order to prevent relapse.

122945 Wardaszko-Lyskowska, Halina; Pietruszewska, Irena; Krzyzowski, Janusz; Szelenberger, Waldemar. *Klinika Psychiatria AM, ul. Nowowiejska 27, Warsaw, Poland /Methodological difficulties of evaluating psychotropic drugs./ Trudnosci metodyczne oceny lekow psychotropowych. Psychiatria Polska (Warszawa). 5(5):565-570, 1971.*

Opinions given by the Department of Mental Disease since 1960 on the value of psychotropic drugs were analyzed in order to illustrate methodological difficulties encountered in an assessment of the efficacy of these drugs. Some of the primary difficulties consisted in selection of a suitable sample of patients, the method of conducting the evaluation, the registration of the obtained improvement as well as side effects, the method of obtaining as objective an evaluation of a drug as possible. These hindrances to an effective evaluation can be overcome if more objective methods of investigation are established. 19 references. (Author abstract)

123048 Kurihara, Masanao. Toranomon Hospital, Department of Psychiatry, Tokyo, Japan. *Judgement of the effects of minor tranquilizers. In: Serenal sogo bunken-shu. Tokyo, Sankyo Co., 1971. 377 p. (p.11-16).*

The methodology for judging the effects of minor tranquilizers is presented. Techniques for studying toxicity and side effects, choosing experimental subjects, experimental and control drugs and dosage, as well as methods of ad-

ministering the drugs, are presented. The construction of evaluation sheets for judging the effects and side effects of the drugs are described. The necessity for the use of statistics in research on the effects of drugs is discussed.

125866 Kuemmerle, H.P.; Garrett, R.; Spitz, K.H. no address /Clinical pharmacology and pharmacotherapy./ *Klinische Pharmakologie und Pharmakotherapie. Munich, Urban and Schwarzenberg, 1971. 895 p. DM 128.00.*

Fifty seven authors collaborated in a collection of monographs devoted to the theoretical and practical aspects of clinical pharmacology. The metabolic effect of drugs is analyzed kinetically, dynamically, genetically, pathophysiologically and biochemically. Chemotherapeutic agents are subdivided into diagnostic, immunologic and organ specific therapeutic preparations, including vitamins. Clinical application of remedies is discussed in chapters dealing with infants, children, pregnancy, geriatrics, surgery and toxicology.

125956 Freyberger, H. II. Med. Univ.-Klinik und Poliklinik, 2 Hamburg 20, Martinistr. 52, Germany /Psychosomatic aspects of gastroenterological disorders./ *Psychosomatische Aspekte bei gastroenterologischen Störungen. Medizinische Welt (Stuttgart). 22(47):1863-1868, 1971.*

Psychosomatic aspects of gastroenterological disorders include mental factors as a contributing cause or as a result of physical symptoms. Corrective approaches may utilize psychotherapy or psychopharmacotherapy. Duodenal ulcer, colitis ulcerosa and functional syndromes are discussed as examples of diseases which may have a partial psychic etiology. Reactive depressions and so called transition syndromes may constitute mental disorders arising as a result of gastroenterological involvement. Psychotherapeutic and psychopharmacotherapeutic options are examined. 14 references. (Author abstract modified)

126181 Evans, Wayne O.; Kline, Nathan S. no address *Psychotropic drugs in the year 2000. Springfield, Illinois, Thomas, 1971. 168 p. \$7.95.*

The potential of mind altering drugs is presented in a volume recording the deliberations of a study group including psychiatrists, psychologists, an anthropologist, a science fiction writer and a judge. Future behavioral and social influences that may condition man's chemical needs

in the year 2000 are discussed. Consideration is given to life patterns amenable to chemical influences, and possibilities with regard to geriatric and forensic psychiatry.

**126570 Braude, Monique C.** Center for Studies of Narcotic Addiction and Drug Abuse, National Institute of Mental Health The NIMH biomedical program of marihuana research. (Unpublished paper). Rockville, Md. NIMH, 1971, 1 p.

A report is given on the biomedical marihuana research program sponsored by NIMH. The areas necessary for a complete study of the drug are mentioned. The emphasis has been to elucidate the effects of the compounds responsible for the psychoactive effects of marihuana in man, to quantify these compounds or metabolites biological fluids, to determine their toxicity and side effects, and to correlate these data with street use of marihuana. It is hoped that these studies will help in evaluating the effects of marihuana on health and contribute to a better understanding of the causes leading to the widespread use of marihuana. (Author abstract modified)

# AUTHOR INDEX

[The 6-digit number is the abstract accession number. The next two digits are the issue number; digits after hyphen are the category number.]

## A

AARONSON B 111962 13-12  
 ABBES ET 104011 13-03  
 ABDALLAH AH 104326 13-03  
 ABE T 098304 13-03  
 ABEL EL 095480 13-14  
 ABOU-CHAAR CI 098556 13-01  
 ABRAHAM GE 088596 13-14  
 ABRAMSKY O 110477 13-15  
 ABRAHAMSON A 106308 13-11  
 ABUZZAHAB FS 087031 13-13, 118778 13-09  
 ACKERMANN W 125289 13-13  
 ADAM N 111344 13-13, 111839 13-14  
 ADAMS HE 088582 13-04  
 ADAMS HP 101687 13-11  
 ADAMS HR 125650 13-03  
 ADAMS PM 086186 13-04, 105077 13-04  
 ADAMSON L 115399 13-08  
 ADLER M 095150 13-08  
 AFANAS'EV II 110144 13-13  
 AGHAJANIAN GK 092374 13-03, 111661 13-03  
 AGMO A 123276 13-04  
 AGNEW NM 104379 13-16  
 AGURELL S 098556 13-01, 100170 13-01, 123262 13-03  
 AHARAN CH 106159 13-17  
 AHNLIUS S 088640 13-04, 104171 13-04, 104431 13-04, 106757 13-04, 119552 13-03, 123269 13-03  
 AHMED MB 107755 13-08  
 AHTEE L 087116 13-03, 106847 13-03  
 AITKIN LM 108671 13-03  
 AKERA T 077871 13-03  
 AKHTAR MI 086522 13-09  
 AKINOTO T 126039 13-14  
 AKIYAMA T 126039 13-14  
 AKKOK I 104798 13-13  
 AKOPYAN ZI 118566 13-03  
 AKPINAR S 107755 13-08  
 AL-HACHIM GM 104791 13-04  
 AL-TSHULERAR 107728 13-13  
 ALBANUS L 123293 13-03  
 ALBERT E 105491 13-15  
 ALBERT H 097553 13-15  
 ALBERT J 074835 13-13  
 ALBERTSON K 092893 13-06  
 ALEEM MIH 087365 13-03  
 ALEKSANDROVSKI IA 107728 13-13  
 ALEXANDER D 106308 13-11  
 ALEXANDERSON B 077931 13-16, 112297 13-13, 122579 13-13  
 ALFANDARY I 125996 13-11  
 ALGERI S 082727 13-03, 088994 13-03  
 ALINO JIL 085406 13-07  
 ALLEN HA 106147 13-03  
 ALLEN HE 085192 13-11  
 ALLEN LE 099649 13-04  
 ALLISTON GV 087118 13-06, 087142 13-16  
 ALMGREN O 120819 13-03  
 ALMOND CH 084938 13-03  
 ALPERS HS 099337 13-12  
 ALSTOTT RL 104741 13-17  
 ALTMAN H 078130 13-16  
 ALTMAN J 094921 13-06  
 ALTUKHOVA LB 111290 13-03  
 AMBACHE N 109198 13-03  
 AMBANI LM 103187 13-15  
 AMDISEN A 086927 13-15  
 AMIN M 087033 13-08  
 AMMON HPT 098207 13-04  
 AMORICO L 102097 13-04  
 ANAND BK 102391 13-03  
 ANANTH JV 074868 13-07, 077824 13-11, 078942 13-11, 085460 13-15, 086895 13-11, 098611 13-11, 098690 13-15, 100260 13-07, 101564 13-10, 105894 13-15  
 ANDEN N 106757 13-04, 120717 13-03  
 ANDERSEN DK 099827 13-03  
 ANDERSON AD 089434 13-03  
 ANDJELKOVIC D 106424 13-04  
 ANDREASEN NJC 098288 13-13, 100317 13-09  
 ANDREWS PR 102101 13-17  
 ANDREYEVA NI 111290 13-03

ANDRONIC A 074314 13-11  
 ANDY DJ 104797 13-04  
 ANGEL C 078949 13-03, 101570 13-04  
 ANGGARD E 105083 13-13, 123292 13-13  
 ANGRIST BM 099110 13-04, 102535 13-12  
 ANGST J 099030 13-08, 099032 13-08, 101967 13-09, 102602 13-09  
 ANISMAN H 102549 13-04  
 ANLEZARK GM 087361 13-04  
 ANTAL J 086821 13-03  
 ANTON-TAY F 101657 13-14  
 AOKI FY 101174 13-15  
 APPEL JB 110190 13-04  
 APPEL P 122292 13-15  
 APPLETON WS 102596 13-17  
 APRISON MM 088665 13-03  
 AQUILONIUS S 123283 13-03  
 ARAUJO-SILVA MT 106392 13-04  
 ARBUTHNOTT GW 087361 13-04  
 ARFWIDSSON L 101410 13-10  
 ARMAND J 100406 13-15  
 ARN L 101410 13-10  
 ARNOLD DO 072262 13-12  
 ARON C 100214 13-06  
 ASAKAWA T 120949 13-14  
 ASBERG M 105536 13-13, 112297 13-13, 122578 13-13  
 ASGHAR K 105706 13-03  
 ASTROM A 106429 13-13  
 ATTACK C 122546 13-03  
 ATKINSON JR 098208 13-06  
 AURES D 101541 13-03  
 AVANZINO GL 107962 13-03  
 AVERY GS 110845 13-11  
 AVRUTSKII G 107728 13-13  
 AXELROD J 082786 13-03, 092689 13-03, 092856 13-03, 092859 13-03, 092894 13-13, 099018 13-03, 101846 13-03  
 AXELROD R 092573 13-11  
 AXELSSON S 098685 13-03  
 AYALA F 098151 13-03  
 AYD FJ 070714 13-13, 102593 13-09  
 AZARASHVILI AA 109736 13-04

## B

BABA O 111589 13-13  
 BABBINI M 078936 13-04, 104329 13-03  
 BACHELIER-NOTTER J 100404 13-15  
 BACON VA 121258 13-03  
 BADI MB 086938 13-03  
 BADINAND A 100406 13-15  
 BAEKELAND F 112201 13-14  
 BAGCHI SP 106491 13-03  
 BAGLEY SK 111207 13-14, 113919 13-13  
 BAILEY J 109105 13-09  
 BAIN DJG 111331 13-15  
 BAINBRIDGE JG 100215 13-04  
 BAK U 126103 13-03  
 BAKER EFW 102836 13-13  
 BAKER PC 098919 13-12  
 BAKER WW 088733 13-03, 122541 13-03  
 BALAGOT R 095155 13-09  
 BALASSA M 094970 13-14  
 BALDESSARINI RJ 106922 13-03, 108289 13-03  
 BALLINGER BR 107597 13-17  
 BALLINGER CM 101705 13-03  
 BALTER MB 078803 13-17  
 BALZANO E 086702 13-03  
 BAN TA 072698 13-17, 074868 13-07, 077431 13-14, 077824 13-11, 078942 13-11, 085460 13-15, 086572 13-14, 086895 13-11, 098507 13-11, 098601 13-13, 098611 13-11, 098734 13-16, 099011 13-08, 100260 13-07, 100539 13-10, 101564 13-10, 101959 13-03, 102832 13-17, 105673 13-08, 108835 13-08, 109398 13-08  
 BANERJEE U 110182 13-04  
 BANEZ RJ 078162 13-16  
 BARAR FSK 120418 13-13  
 BARBAZ BS 098158 13-03  
 BARBER TX 077930 13-16  
 BARCAI A 077911 13-11  
 BARCHAS JD 111144 13-04  
 BARFKNECHT CF 087062 13-02  
 BARGIEL Z 119648 13-03  
 BARKER JL 092379 13-03  
 BARKOV N 113519 13-04, 124104 13-02  
 BARKSDALE B 086894 13-14  
 BARNES CD 107121 13-03  
 BARNETT A 125247 13-04  
 BARNETT BM 082799 13-04  
 BARO F 115396 13-13  
 BAROFSKY I 100216 13-03  
 BARON J 089189 13-15, 093701 13-11  
 BARONDES SH 089015 13-04  
 BARR FS 111999 13-16  
 BARR RF 078156 13-09  
 BARRATT ES 105077 13-04  
 BARRELL RP 096017 13-08  
 BARRIGA C 089080 13-15  
 BARRY H 077902 13-03, 079430 13-03  
 BARTOW CA 099826 13-04  
 BARTH R 086700 13-03  
 BARTLETT AFF 087142 13-16  
 BARTLETT C 097554 13-07  
 BARTONOVIC VJ 087212 13-03  
 BARTOVA D 105922 13-14  
 BARU AM 111704 13-03  
 BASEL RC 101156 13-15  
 BASTECKY J 105927 13-08, 106091 13-16  
 BASTRON RD 089343 13-15  
 BATTENBERG E 107113 13-06  
 BAU D 092158 13-03  
 BAUDIS P 105836 13-09  
 BAUER ER 088071 13-04  
 BAUER RH 106786 13-04  
 BAUER WS 106425 13-03  
 BAUM G 125772 13-14  
 BAUM M 103951 13-04  
 BAYER T 102188 13-04  
 BAZAN NG 100868 13-03  
 BAZELL RJ 089087 13-14  
 BEATTY WW 104457 13-04  
 BEAUBIEN J 077431 13-14  
 BEBER CR 079011 13-11  
 BECKETT AH 077906 13-05, 087115 13-03, 087141 13-06, 106423 13-03, 106908 13-13  
 BEDECS MJ 122758 13-02  
 BEECHER HK 089186 13-12  
 BEER B 124108 13-04  
 BEIN HJ 102696 13-03  
 BEISER EM 086166 13-15  
 BELESIN DB 106424 13-04  
 BELL WE 080564 13-17  
 BELLVILLE JW 100261 13-16, 104365 13-14  
 BEN-ZVI Z 103707 13-01  
 BENDER AD 095301 13-17  
 BENEDIKT LB 120418 13-13  
 BENESOVA O 104435 13-09, 105999 13-14, 106093 13-03, 106096 13-03  
 BENNETT TL 102390 13-04  
 BENNINGTON RH 106813 13-08  
 BENSON WH 100626 13-14  
 BENITE O 099030 13-08  
 BENTINCK SJ 098229 13-14  
 BERCEL NA 098093 13-10  
 BERGER BD 077480 13-04  
 BERGER HJ 125410 13-04  
 BERGH RD 103955 13-13  
 BERGIN JD 095622 13-11  
 BERKOWITZ BA 107161 13-03  
 BERMAN HM 102695 13-03  
 BERNARD PS 098158 13-03  
 BERNARDI D 086812 13-03  
 BERNASCONI S 103952 13-04, 105400 13-04  
 BERNER P 099030 13-08  
 BERRY CA 103652 13-04, 104325 13-04  
 BERTILSSON L 112297 13-13, 122579 13-13  
 BERTUZZI F 096309 13-08  
 BERZEWSKI H 126008 13-11  
 BESKOW J 101410 13-10  
 BEISSON MJ 082783 13-03  
 BESZTERCZEY A 089350 13-15  
 BEVANS HG 093774 13-11, 098229 13-14  
 BEVILAQUA L 102281 13-14  
 BHAGAT B 102188 13-04, 104535 13-03  
 BHARGAVA KP 099650 13-03, 120929 13-03

BHATNAGAR RK 105410 13-03  
 BIANCHI CP 101847 13-03  
 BIANCHI GN 078156 13-09  
 BIANCHINI JR 069516 13-17, 120468 13-03  
 BICKEL MH 108290 13-03, 122577 13-03  
 BICKERS I 100168 13-16  
 BIENIEK D 104578 13-04  
 BIGELOW G 101740 13-04  
 BIGELOW LB 092893 13-06  
 BIGNAMI G 082881 13-04, 102097 13-04  
 BILIKIEWICZ A 105825 13-07, 122947 13-09, 123891 13-07  
 BILIKIEWICZ T 123889 13-11, 123891 13-07  
 BILKOVA J 104429 13-04  
 BILLINGS EG 077867 13-09  
 BILY J 105830 13-09  
 BINDER S 088693 13-11  
 BINDLER EH 077989 13-03  
 BING RJ 087032 13-13  
 BINO T 077870 13-03  
 BIRDWOOD GFB 110002 13-11  
 BIRKE S 089150 13-11  
 BISCALDI GP 100537 13-07  
 BISCHOFF S 107194 13-03  
 BISHOP MP 086893 13-11, 095536 13-08, 097555 13-07, 099157 13-07, 117022 13-08  
 BISHUN NP 090765 13-15  
 BITTNER-MANICKA M 123892 13-11  
 BIXLER EO 104367 13-14  
 BJORKLUND A 098685 13-03  
 BJORKSTRAND P 105006 13-14  
 BLACK IB 088546 13-03, 108720 13-03  
 BLACK WC 088681 13-04  
 BLACKLIDGE VY 087272 13-14  
 BLACKWELL B 070714 13-13, 078957 13-17  
 BLAKELEY AGH 120413 13-03  
 BLANC G 082825 13-03  
 BLANCHETEAU M 119914 13-04  
 BLASS EM 105346 13-04  
 BLAZI M 086936 13-14  
 BLEIWEISS H 090765 13-15  
 BLOES V 089150 13-11  
 BLOOM AD 092717 13-14  
 BLOOM FE 092976 13-04, 107113 13-06, 125594 13-03  
 BLUM JE 105408 13-02  
 BLUM K 086892 13-16, 104433 13-04, 104536 13-03  
 BOAKES AJ 120418 13-13  
 BOAKES RJ 125409 13-03  
 BOBBIN RP 108523 13-13  
 BOBKOVA RM 113749 13-04  
 BOBON DP 099740 13-08  
 BOBON J 096113 13-07  
 BOCK WJ 125772 13-14  
 BOEGLI G 082707 13-03  
 BOEHME DH 086576 13-13  
 BOFF E 086901 13-04  
 BOGGAN WO 088577 13-03  
 BOGLIOLO C 098982 13-08  
 BOHDANECKY Z 104429 13-04  
 BOICE R 078448 13-04  
 BOILLAT JE 098601 13-13  
 BOISSIER JR 082863 13-03, 091558 13-02, 094620 13-02, 100214 13-06, 105118 13-03  
 BOITANO JJ 079611 13-04  
 BOLT AG 104806 13-04  
 BONBRIGHT JC 112313 13-04  
 BOND DD 098389 13-09, 098400 13-17  
 BOND ML 103654 13-03  
 BONDARENKO TT 107722 13-03  
 BONN JA 100538 13-10, 105890 13-11  
 BONNIOL JP 121753 13-07  
 BONTA IL 107160 13-03  
 BOOTHE H 095221 13-08  
 BORELLA LE 082793 13-03  
 BORENSTEIN P 077416 13-17, 100604 13-11  
 BOREYKO C 080939 13-16  
 BORG A 098616 13-03, 112297 13-13, 122579 13-13  
 BORG E 088385 13-09, 092743 13-11, 095943 13-13  
 BORGESOVA M 105907 13-03, 105996 13-04  
 BORGSTEDT NH 125427 13-15  
 BORN GS 087061 13-03  
 BOROWITZ JL 100221 13-03  
 BORST P 101768 13-03  
 BOS P 102838 13-12  
 BOSMA E 103955 13-13

BOSTON JE 110960 13-03  
 BOUCEK FC 101769 13-03  
 BOUERI-ATEM S 073607 13-11  
 BOULLIN DJ 082634 13-13, 088486 13-03  
 BOULTON AA 095478 13-08  
 BOURGEOIS M 100606 13-07  
 BOURKE IG 100133 13-13  
 BOUTHILET L 095532 13-17  
 BOWERS MB 091448 13-10  
 BOWLING C 082722 13-04  
 BOWMAN R 108838 13-08  
 BOWRY S 118569 13-05  
 BOXALL E 105413 13-04  
 BOYANER HG 117580 13-03, 122549 13-03  
 BOYD EH 082720 13-03  
 BOYD EM 094922 13-03  
 BOYD ES 082720 13-03  
 BRACCHITTA H 106145 13-04  
 BRACELAND FJ 098389 13-09, 098400 13-17  
 BRACKENRIDGE CJ 088729 13-13  
 BRADLEY PB 125409 13-03, 125593 13-13  
 BRADSHAW CM 087359 13-03, 108796 13-03  
 BRADY AH 101769 13-03  
 BRADY EM 101769 13-03  
 BRADY JP 115611 13-11  
 BRAHIM D 073607 13-11  
 BRAIN PF 111873 13-04  
 BRAKE SC 101738 13-04  
 BRAM G 102349 13-07  
 BRANCHY L 095385 13-04  
 BRANCHEY M 095385 13-04  
 BRAND U 102186 13-04  
 BRANDT B 125772 13-14  
 BRANDT T 125772 13-14  
 BRAUDE IV 111704 13-03  
 BRAUDE MC 093082 13-05, 093551 13-05, 099852 13-03, 107886 13-15, 126570 13-17  
 BRAUZE B 074974 13-10, 078941 13-08, 086897 13-10  
 BRAZELTON TB 099518 13-15  
 BRECHER G 088626 13-03  
 BRESE GR 083161 13-03, 088706 13-03, 104539 13-04  
 BREGMAN AA 086699 13-13  
 BREIDT R 098562 13-11  
 BRESSLER B 099887 13-08  
 BREULET M 096113 13-07  
 BREYER U 108718 13-03, 117457 13-15, 123268 13-03  
 BREZINOVA V 092160 13-12  
 BRIDWELL TJ 110192 13-04  
 BRIGGS I 125593 13-13  
 BRIGGS M 092160 13-12  
 BRIMBLECOMBE RW 102102 13-03  
 BRIMUOIN S 092859 13-03  
 BRINE DR 082707 13-03  
 BRISSON B 098733 13-14  
 BRISTER CC 106845 13-05  
 BROCH DJ 083162 13-03, 099645 13-03  
 BROCHMANN-HANSEN E 086577 13-01  
 BRODIE HKH 074202 13-10, 079064 13-09, 085448 13-09  
 BRODY TM 077871 13-03  
 BROERMANN I 123284 13-03  
 BROGDEN RN 110845 13-11  
 BROOKES LG 086700 13-03, 105405 13-06, 106908 13-13, 121258 13-03  
 BROVERMAN DM 088596 13-14, 104616 13-13  
 BROWN B 100261 13-16  
 BROWN BW 104365 13-14  
 BROWN CW 088069 13-04  
 BROWN H 077868 13-03, 102243 13-04  
 BROWN K 079533 13-04, 095197 13-04  
 BROWN LE 082720 13-03  
 BROWN RM 106689 13-04  
 BROWN RT 101354 13-04  
 BROWN SH 101287 13-03, 101748 13-04  
 BROWN TCK 108014 13-15  
 BROWNE E 099747 13-14  
 BROWNING RA 109145 13-13  
 BRUNN JG 100170 13-01  
 BRUN B 106143 13-14  
 BRUN R 121428 13-04  
 BRUNE F 101754 13-11  
 BRY S 118204 13-08, 122946 13-11  
 BUBECK R 108513 13-15  
 BUCCI L 098292 13-08, 098602 13-08  
 BUCHANAN AS 102101 13-17  
 BUCHBINDER R 103248 13-14

BUCHSBAUM M 088385 13-09, 092743 13-11, 095943 13-13  
 BUCHTHAL F 100844 13-11  
 BUCKLEY JP 122548 13-03, 125650 13-03  
 BUFFALO WJ 079832 13-14  
 BUGUET A 099261 13-03  
 BUKOWCZYK A 087023 13-09, 118204 13-08, 118205 13-08, 118209 13-09, 122946 13-11  
 BULLOCH GC 075046 13-04  
 BUNCE R 101919 13-04  
 BUNNEY WE 074202 13-10, 079064 13-09, 085448 13-09, 092897 13-09, 093454 13-09  
 BURDICK JA 106132 13-11  
 BURDOCK EI 101897 13-09  
 BURGER A 120718 13-03  
 BURKARD WP 105408 13-02  
 BURKE WR 088725 13-13  
 BURKETT ML 078949 13-03, 101570 13-04  
 BURNETT GB 088510 13-13  
 BURNS B 109105 13-09  
 BUROV VY 112007 13-04  
 BURROW GN 088725 13-13  
 BURROWS GD 109725 13-15  
 BURROWS WG 106602 13-11  
 BURSTEIN SH 122580 13-03  
 BUSCH H 101754 13-11  
 BUSH MT 082782 13-03  
 BUTLER JK 100790 13-10  
 BUTTERWORTH AT 073606 13-11, 101746 13-11  
 BUXBAUM DM 103648 13-03  
 BUXTON DA 122545 13-04  
 BUZNIKOV GA 105726 13-03  
 BYRNE PJ 082816 13-06

C

CADE JFJ 089336 13-09  
 CAFFEY EM 097378 13-11, 106066 13-08  
 CAIRNCROSS K 093112 13-14  
 CALCUTT CR 110188 13-03  
 CALDWELL HC 100256 13-07  
 CALNE DB 111598 13-13  
 CAMBRA R 099794 13-04  
 CAMPAGNE E 086796 13-01  
 CAMPBELL AB 106689 13-04  
 CAMPBELL BA 082758 13-14, 106797 13-04, 114515 13-04  
 CAMPBELL DR 097549 13-09  
 CAMPBELL M 074814 13-08, 101536 13-11  
 CAMPBELL SB 099939 13-11  
 CANCRO R 085015 13-08  
 CANDY JM 125409 13-03  
 CANNIZZARO G 103653 13-03  
 CANO JP 093821 13-13  
 CAPALDI EJ 078449 13-04, 078938 13-04, 097414 13-14  
 CAPOUN V 105827 13-14  
 CAPPELL H 102195 13-04, 107629 13-04  
 CAPSTICK N 103625 13-10  
 CARLINI EA 110036 13-04, 125251 13-04  
 CARLSON BE 099682 13-15  
 CARLSSON C 107596 13-11  
 CARMON A 110477 13-15  
 CARR WJ 123639 13-04  
 CARRIER O 122536 13-03  
 CARROLL BJ 077709 13-03, 100439 13-07  
 CARRUTHERSGS 099993 13-15  
 CARVALHO FV 121065 13-03  
 CASARETT LJ 101156 13-15  
 CASE WG 086521 13-08  
 CASSANO GB 099031 13-10  
 CASTAIGNE P 101377 13-11  
 CASTELLANO C 104794 13-04, 104812 13-04  
 CASTELLS S 088557 13-03  
 CASTELLUCCI VF 102512 13-03  
 CASTROGIOVANNI P 099031 13-10  
 CAVANAUGH JH 104571 13-13  
 CAVERO I 122548 13-03, 125650 13-03  
 CAZALS P 121849 13-17  
 CAZZULLO CL 086768 13-17  
 CERASKIS PW 086156 13-04  
 CERNA I 088517 13-03  
 CERNA M 106091 13-16  
 CERNY M 089136 13-03  
 CERVEN J 087136 13-15  
 CERVENKA J 106091 13-16  
 CHAI H 122550 13-03  
 CHALLENGER YB 090662 13-15  
 CHAMBLIN M 121220 13-05

- CHAN D 077424 13-04, 077425 13-04  
 CHANARIN I 106063 13-11  
 CHANDRA B 115899 13-13  
 CHANG CC 122553 13-03  
 CHANG CM 106065 13-03  
 CHAPMAN HW 105346 13-04  
 CHARALAMPOUS KD 098095 13-13  
 CHARBONNEAU S 122551 13-03  
 CHARI-BITRON A 077870 13-03  
 CHASE TN 085956 13-13, 092899 13-09, 092998 13-13, 093081 13-13, 099063 13-14, 105426 13-03, 107995 13-15, 110844 13-17, 111618 13-13  
 CHASSAN JB 095539 13-10  
 CHATTEN LG 082763 13-06  
 CHAYANNES N 093701 13-11  
 CHEEK FE 098888 13-12  
 CHEIFETZ DI 069514 13-14  
 CHENEY DL 082727 13-03, 082781 13-04, 098926 13-03  
 CHENG M 108487 13-11  
 CHENG MN 101989 13-11  
 CHENOWETH MB 091225 13-04  
 CHERAMY A 082783 13-03  
 CHERKASKIN AN 109736 13-04  
 CHERKIN A 095364 13-04  
 CHERNOV HI 098158 13-03  
 CHHINA GS 102391 13-03  
 CHICOINE R 105387 13-15  
 CHIEN C 079780 13-14, 086896 13-07, 104831 13-14  
 CHILLAG D 102305 13-04  
 CHINERMAN JM 085236 13-04  
 CHISHOLM DC 078527 13-04  
 CHISSICK HM 087115 13-03  
 CHKHARTISHVILI BV 113758 13-04  
 CHLOPICKI K 087021 13-15  
 CHO AK 108286 13-03  
 CHO DW 078130 13-16  
 CHOCHOLOVA L 104375 13-03, 104376 13-03  
 CHOKROVERTY S 125574 13-14  
 CHOU SC 105014 13-03  
 CHRISTENSEN AV 123275 13-04  
 CHRISTENSEN HD 082707 13-03  
 CHRISTIAN JE 087061 13-03  
 CHRISTIAN JJ 089016 13-03  
 CHRISTIAN ST 086822 13-03  
 CHRISTIE JE 087361 13-04, 109196 13-03  
 CHRUSCIEL TL 124105 13-03, 125163 13-03  
 CHU N 092976 13-04  
 CHUBB NC 111207 13-14  
 CHUDINA LD 102654 13-07  
 CHUM G 082713 13-17  
 CHUNG R 104831 13-14, 114514 13-04  
 CHUPRIKOV AP 102711 13-17  
 CIARANIELLO RD 108720 13-03  
 CICALA GA 091532 13-03  
 CICHECKI Z 122950 13-15  
 CISIN IH 078803 13-17  
 CLAGHORN J 098894 13-14, 100535 13-10  
 CLAISSE R 122393 13-11  
 CLARE AW 107948 13-15  
 CLARK CVH 089332 13-04  
 CLARK DL 111343 13-13, 111344 13-13, 111839 13-14  
 CLARK G 104136 13-04  
 CLARK JW 110205 13-04  
 CLARK LD 101684 13-11  
 CLARK M 098613 13-08  
 CLARK ML 098731 13-14  
 CLARK TJH 100495 13-15, 101988 13-11  
 CLARK WG 086810 13-03, 101541 13-03, 104172 13-03  
 CLARKE EGC 101987 13-16  
 CLAY GA 108286 13-03  
 CLAY MM 077868 13-03  
 CLODY DE 124108 13-04  
 COCK RJ 118717 13-11  
 COHEN AJ 084579 13-03  
 COHEN GM 107865 13-03, 108281 13-03, 109030 13-03  
 COHEN NJ 111147 13-14  
 COHEN S 111878 13-17  
 COHEN SI 082516 13-13  
 COHN CK 107995 13-15  
 COHN HD 102141 13-17  
 COIGNET JL 107160 13-03  
 COLASANTI B 086106 13-03  
 COLDWELL BB 122551 13-03  
 COLE JM 120966 13-04  
 COLE JO 095535 13-17, 095540 13-11, 096021 13-11, 102187 13-14, 102350 13-14  
 COLE SO 120960 13-04  
 COLEMAN M 082634 13-13  
 COLLINS AC 105709 13-03  
 COLLINS JV 100495 13-15  
 COLMORE JP 098613 13-08, 098731 13-14  
 COLONNA L 097797 13-08  
 COMBES B 089284 13-03  
 COMBS G 080630 13-02  
 COMBS HF 078162 13-16  
 COMER WH 077933 13-13  
 CONE FL 088596 13-14  
 CONKLIN KA 105014 13-03  
 CONNER RL 111144 13-04  
 CONNERS CK 125254 13-14  
 CONNOR SM 100258 13-07  
 CONSOLO S 103650 13-03  
 CONSTANTINIDIS J 106486 13-03  
 CONTRERAS E 104328 13-03  
 CONYERS RAJ 074828 13-15  
 COOMBS HI 099315 13-16  
 COOPER BR 088681 13-04  
 COOPER HP 104432 13-04  
 COOPER JD 095533 13-17  
 COOPERSTOCK R 100851 13-14  
 COPER H 119553 13-03, 123291 13-03  
 COPPEN A 109105 13-09  
 CORA R 107244 13-08  
 CORONA GL 105708 13-03  
 CORRODI H 086808 13-03, 086810 13-03, 104172 13-03, 120717 13-03, 122547 13-03  
 CORVOL P 089134 13-15  
 COSTA E 082727 13-03, 082879 13-06, 087123 13-03, 088486 13-03, 088994 13-03, 089048 13-03, 104765 13-03  
 COSTALL B 086899 13-03, 100566 13-03, 122542 13-03  
 COTE YJ 077430 13-08  
 COTT A 101158 13-08  
 COTTRELL GA 120411 13-03  
 COUCH JV 078527 13-04  
 COUDERC L 077703 13-07  
 COULSON GE 079769 13-14  
 COULT DB 102102 13-03  
 COULTER JD 104828 13-14, 105007 13-14  
 COURTNEY KD 112001 13-05  
 COVI L 092456 13-10, 104143 13-10  
 COWAN A 102190 13-04, 111145 13-04  
 COWDEN LC 105007 13-14  
 COX RH 106492 13-03  
 COYLE JT 101846 13-03  
 CRAIG AL 122543 13-03  
 CRAMER B 085705 13-15  
 CRAMMER JL 086530 13-16  
 CRANE GE 079632 13-14, 088145 13-15, 088201 13-15  
 CRANKSHAW DP 077908 13-02  
 CRAWFORD FT 086186 13-04  
 CRAWFORD R 100134 13-15  
 CRAYTON JW 092379 13-03  
 CRESPIAN J 090792 13-14  
 CROLL D 077913 13-08  
 CROHNOLM B 105536 13-13  
 CROW LT 079428 13-04, 102868 13-04  
 CROW TJ 087361 13-04, 109196 13-03, 120416 13-14  
 CRUZ ME 101763 13-05  
 CRYER PE 104427 13-13  
 CSANALOSI I 102213 13-10  
 CUJO P 100604 13-11  
 CUMINGS JN 109195 13-03  
 CUNNINGHAM JAK 095622 13-11  
 CUNNINGHAM R 108513 13-15  
 CURI JO 073607 13-11  
 CURRY SH 086531 13-13, 087364 13-13  
 CURZON G 104538 13-03  
 CUTHBERT MF 120417 13-13  
 CWNYNAR S 089301 13-09  
 CZERNIAK P 088646 13-03  
 CZERWINSKI A 125786 13-09  
 D  
 D'AGUANNOW W 099852 13-03  
 D'ARBELA PG 101990 13-16  
 DA SILVA GR 120716 13-03  
 DALAYEUN J 122393 13-11  
 DALGLISH FW 102094 13-04, 103461 13-04, 103949 13-04  
 DALLEMAGNE G 103954 13-04  
 DALRYMPLE SD 102189 13-04  
 DALY R 103917 13-11  
 DAMASIO AR 111004 13-17  
 DANDIYA PC 078937 13-04, 102884 13-04  
 DANIELS J 106065 13-03  
 DANIELS JC 125630 13-13  
 DARLING HF 079232 13-07  
 DASBERG H 100204 13-15  
 DASHINOVA N 109885 13-11  
 DATTA K 089050 13-03  
 DATTA RK 109418 13-03  
 DAVID-REMACLE M 104145 13-04  
 DAVIES B 109725 13-15  
 DAVIS JM 077924 13-17, 089849 13-11, 090929 13-14, 098750 13-13, 104571 13-13, 110462 13-17, 112538 13-07  
 DAVIS JW 088582 13-04  
 DAVIS KV 104572 13-14  
 DAVIS L 091448 13-10  
 DAVIS LE 086938 13-03  
 DAVIS LF 108284 13-03  
 DAVIS LJ 107465 13-13  
 DAVIS MS 108270 13-17  
 DAVIS PC 106954 13-11  
 DAVIS VE 077868 13-03  
 DAVIS WM 104329 13-03, 106845 13-05  
 DAYTON PG 092932 13-09  
 DE ACETIS L 082881 13-04  
 DE CAMP MO 105846 13-13  
 DE CAROLIS AS 105342 13-04, 111143 13-03  
 DE FAUBERT MAUNDER MJ 087118 13-06, 087142 13-16  
 DE GREEF A 098880 13-14  
 DE GREGORIO M 089066 13-10  
 DE HAEN P 082867 13-17  
 DE LEON V 087125 13-06  
 DE MORAES S 121065 13-03  
 DE STEVENS G 098158 13-03  
 DE VOS CJ 107160 13-03  
 DEAN HG 105411 13-03  
 DEANE CC 102102 13-03  
 DECKER BL 112538 13-07  
 DECKER WJ 078162 13-16, 089180 13-15  
 DEEMER BL 098483 13-04  
 DEFEUDIS FV 106524 13-03  
 DEHAAN J 102288 13-13  
 DEIKMAN AJ 113928 13-17  
 DEISENHAMMER E 094970 13-14  
 DEITRICH RA 077726 13-03, 105709 13-03  
 DEKIRMENJIAN H 085419 13-04, 101934 13-04  
 DEL BASSO P 105342 13-04  
 DEL RIO J 124107 13-04  
 DELAY J 094122 13-17  
 DELBARRE B 119914 13-04  
 DELGADO JMR 106145 13-04  
 DELINI-STULA A 104144 13-04  
 DELISLE G 077912 13-15  
 DEMBICKI EL 100621 13-11  
 DEMECZYK M 100132 13-13  
 DEMENT WC 098149 13-14  
 DEMERS R 125569 13-13  
 DEMERS RG 092453 13-09, 098612 13-14, 100271 13-13, 100314 13-09  
 DEMISCH L 102734 13-03  
 DEMPSTER T 110191 13-04  
 DENHAM J 115399 13-08  
 DENIKER P 094122 13-17, 097797 13-08, 097798 13-11  
 DENTON IC 099653 13-03  
 DEROGATIS LR 092456 13-10  
 DESATY J 074835 13-13  
 DETRE TP 104364 13-16, 113926 13-17  
 DEUTSCH M 077824 13-11, 086895 13-11  
 DEVERTEUIL R 105673 13-08  
 DEVETTI TL 105362 13-04  
 DEWALD PA 094703 13-17  
 DEWAR AJ 096013 13-03  
 DEWOLFE AS 096017 13-08  
 DEWSBURY DA 073485 13-04  
 DHAITI G 074835 13-13  
 DHASMANA KM 104807 13-06  
 DHAWAN KN 120929 13-03  
 DHOPESHWARKAR VP 086521 13-08  
 DI GIUSTO EL 093112 13-14  
 DI MASCIO A 074314 13-11  
 DI SALLE E 120467 13-03

# Author Index

# Psychopharmacology Abstracts

DIAB IM 098956 13-03  
 DIAMOND B 077286 13-08, 107994 13-14  
 DIAMOND L 080630 13-02  
 DIAZ JL 099828 13-03, 101657 13-14  
 DICHARA G 099794 13-04  
 DIGENIS GA 087365 13-03  
 DIGGLE GE 100133 13-13  
 DIGIACOMO JM 071597 13-11, 085013 13-10  
 DILTS SL 103632 13-04, 104325 13-04  
 DIMASCIO A 095541 13-11, 107547 13-07, 115619 13-13  
 DINGELL JV 077869 13-03, 082733 13-03  
 DINIITZ S 085192 13-11  
 DINSMOOR JA 112313 13-04  
 DIONISIO A 089066 13-10  
 DISSINGER ML 123639 13-04  
 DITTRICH A 101967 13-09, 102193 13-12, 102602 13-09  
 DIXIT BN 077902 13-03, 125650 13-03  
 DIXIT KS 104807 13-06  
 DIXSON JD 108513 13-15  
 DJUNAEDI W 115899 13-13  
 DLABAC A 105838 13-04, 105841 13-03  
 DO JP 100404 13-15  
 DOBRZANSKI T 125787 13-08  
 DODGE J 077709 13-03  
 DODGE PW 077991 13-02  
 DODGETT NS 110188 13-03  
 DOLS L 111694 13-09  
 DOM R 115396 13-13  
 DOMAGALSKI J 087023 13-09  
 DOMINGUEZ JC 098751 13-09  
 DOMINIC JA 082757 13-04, 107964 13-04  
 DOMINO EF 085473 13-17, 100418 13-13, 101543 13-03  
 DORR M 093953 13-04  
 DOST FN 101704 13-03  
 DOSTAL T 101967 13-09, 102602 13-09, 105831 13-09  
 DOUGLAS VI 099939 13-11, 101643 13-11, 111147 13-14  
 DOWNING RW 079432 13-10  
 DOYLE D 098142 13-15  
 DRAGON P 089307 13-11, 118217 13-15  
 DRAPER KC 100131 13-15  
 DRASKOCZY PR 086251 13-03, 098921 13-15, 114514 13-04  
 DRAVET C 093821 13-13  
 DRAY A 125593 13-13  
 DREW WG 111052 13-04, 121220 13-05  
 DREWS DR 091532 13-03  
 DREYFUSS J 086578 13-03, 086579 13-03, 086580 13-03  
 DRISCOLL RC 111999 13-16  
 DROBNY M 102261 13-14  
 DROGOWSKI M 089300 13-08  
 DROLLER H 093774 13-11, 098229 13-14  
 DRYBANSKI A 124105 13-03, 125163 13-03  
 DUBINSKY B 107960 13-04  
 DUDDERIDGE H 082859 13-04  
 DUFFIELD AM 121258 13-03  
 DUFFY B 088512 13-15  
 DUFOUR H 090792 13-14  
 DUJOYNE CA 120468 13-03  
 DUMONT C 094620 13-02  
 DUNCAN NC 106786 13-04  
 DUNCAN PM 097448 13-03  
 DUNDEE JW 106136 13-13  
 DURHAM PB 117581 13-03  
 DUNK LP 109198 13-03  
 DUNLEAVY D 092160 13-12, 110189 13-14  
 DUNNER DL 092897 13-09, 093454 13-09, 098686 13-13  
 DUPREE D 078100 13-17  
 DURAND J 122393 13-11  
 DUREMAN I 105006 13-14  
 DURINDOVA Z 087189 13-15, 101309 13-15  
 DVORAK Z 105998 13-02  
 DVORAKOVA M 105836 13-09  
 DVORNIK D 102735 13-13  
 DWYER ME 108014 13-15  
 DYNTAROVA H 106093 13-03  
 DYSTER-AAS K 106761 13-14  
 DZHAGATSPANYAN IA 111134 13-04

## E

EARLE KM 113974 13-01  
 EAST PF 098159 13-04

EBERT W 122047 13-03  
 ECANOW B 095155 13-09  
 ECCLESTON D 092689 13-03  
 ECKEL K 122292 13-15  
 EDELFORS S 123279 13-03, 123289 13-03  
 EDELSON A 088576 13-06  
 EDERY H 103707 13-01  
 EDLER K 115395 13-13  
 EDWARDS DA 088581 13-04  
 EDWARDS JG 087033 13-08  
 EDWARDS R 094689 13-17  
 EFRON DH 104139 13-03, 104372 13-16  
 EGASHIRA T 100100 13-03  
 EGER J 122048 13-03  
 EGLI H 089129 13-17  
 EHINGER B 109417 13-03  
 EHLEN KJ 118778 13-09  
 EICHELMAN BS 106070 13-04  
 EIDE GJ 089434 13-03  
 EIDELBERG E 099826 13-04, 103654 13-03  
 EISENBERG L 101214 13-17, 118690 13-14  
 EISING RG 108699 13-04  
 EKLAD RL 087272 13-14  
 EKDAWI MY 099124 13-10  
 EL YOUSEF AK 112538 13-07  
 ELIAS MF 079532 13-14  
 ELIZUR A 100540 13-08  
 ELLINWOOD EH 097456 13-04, 110187 13-04  
 ELLIOTT HW 079933 13-13, 100217 13-05, 100417 13-13, 116814 13-13  
 ELLIOTT KAC 100508 13-03, 111216 13-03  
 ELLISON T 077990 13-03  
 ELSMORE TF 101935 13-05  
 EMMERSON JL 099696 13-05  
 ENGEL J 088640 13-04, 101763 13-05, 104140 13-03, 104171 13-04, 106757 13-04, 119552 13-03, 123269 13-03  
 ENGEL WK 093081 13-13  
 ENGELBRECHT JA 087062 13-02  
 ENGELHART DM 092770 13-08  
 ENGELMAN K 098149 13-14, 099063 13-14  
 ENGELS DT 102868 13-04  
 ENGLERT LF 088639 13-03  
 ENNA SJ 105704 13-03  
 ENOCH V 087289 13-06  
 EPER O 095157 13-09  
 ERANERUS A 099851 13-13  
 ERICKSON CK 112314 13-04  
 ERIKSSON H 104431 13-04  
 ERMIRO R 107962 13-03  
 ERNEST CH 104379 13-16  
 ERWIN VG 089434 13-03, 105709 13-03  
 ESLAMI H 093702 13-09  
 ESPEJEL MA 098751 13-09  
 ESSMAN SG 104462 13-04  
 ESSMAN WB 104462 13-04, 108520 13-13  
 ESTEVEZ V 086148 13-03, 086818 13-03  
 ESTLER CJ 086819 13-03, 098207 13-04, 120818 13-04  
 ETEVENON P 082863 13-03, 105118 13-03  
 ETTEHADIEH D 123278 13-03  
 EVANGELISTA AM 109944 13-04  
 EVANS DAP 122578 13-13  
 EVANS HL 082723 13-04  
 EVANS WO 126181 13-17  
 EVE NO 089327 13-15  
 EYBL V 106910 13-04

## F

FABER J 101418 13-11  
 FACINO RM 105708 13-03  
 FAERO O 100845 13-11  
 FAHN S 071597 13-11, 085013 13-10  
 FAHSE C 100505 13-03, 100506 13-03, 103946 13-04  
 FAILLACE LA 071566 13-12, 078958 13-12  
 FAIRBAIRN JW 087117 13-01  
 FAKTOR MI 113750 13-09  
 FALCK B 109417 13-03  
 FALKOWSKI S 118222 13-09  
 FANELLI R 101701 13-03, 102806 13-03, 107158 13-03  
 FANN WE 077924 13-17, 098750 13-13, 104571 13-13, 110462 13-17  
 FAREL PB 095549 13-04  
 FARMER JB 107193 13-03  
 FARNEBO L 118563 13-03  
 FARQUHARSON DA 109918 13-03

FARRELL G 098094 13-14  
 FASS G 106367 13-17  
 FAST GJ 079188 13-14  
 FAY PJ 088517 13-03  
 FAYEZ MBE 069047 13-12  
 FIEDO P 092159 13-14  
 FEDYAYEVA LP 111132 13-03  
 FEIGHNER J 095945 13-09  
 FELDMAN B 088576 13-06  
 FELDMAN JM 099827 13-03  
 FELDMAN RS 110186 13-04  
 FELDMAN S 088295 13-17, 118619 13-14  
 FELDMAN S 103647 13-04  
 FELGER HL 078951 13-14  
 FELTZ P 089026 13-03  
 FENIMORE DC 088638 13-06  
 FENNESSY MR 079063 13-03  
 FERGUSON HC 099649 13-04  
 FERLEMAN M 104047 13-11  
 FERNADES M 123267 13-03, 123291 13-03  
 FERNANDEZ S 105907 13-03  
 FERNANDEZ-GUARDIOLA A 098151 13-03, 101657 13-14  
 FERRARO DP 107626 13-04  
 FERTZIGER AP 117581 13-03  
 FESSOCK L 101287 13-03, 101748 13-04  
 FIBIGER HC 082758 13-14, 104432 13-04, 114515 13-04, 120820 13-03  
 FIEVE RR 100236 13-09, 102105 13-09, 104438 13-07  
 FILIPPOVA LM 113434 13-03  
 FILLIT H 102540 13-04  
 FINCHER JH 088290 13-03  
 FINE EW 100536 13-11  
 FINK M 107630 13-16  
 FINK Z 105991 13-03, 105993 13-03, 105994 13-04  
 FINNERTY RJ 102187 13-14  
 FISCHBACH R 089200 13-13  
 FISCHER A 108959 13-08  
 FISCHER H 094258 13-03  
 FISCHER KC 103916 13-14  
 FISCHER R 108976 13-14  
 FISH B 074814 13-08, 095924 13-14, 101536 13-11, 102612 13-17  
 FISHER AE 101966 13-04  
 FISHER S 079188 13-14  
 FLANAGAN T 100258 13-07  
 FLEMMENBAUM A 088152 13-15, 100880 13-13  
 FLENTGE F 123283 13-03  
 FLOREANOVA L 105826 13-08, 105923 13-08  
 FLOREY E 125598 13-03  
 FLOYD A 074814 13-08, 077823 13-09, 101536 13-11, 101897 13-09  
 FLOYD WS 108570 13-16  
 FOG R 085234 13-04, 104374 13-04, 117681 13-03  
 FOMENKO GF 111129 13-05  
 FORAN KJ 082816 13-06  
 FORGIONE AG 077930 13-16  
 FORN J 105707 13-03  
 FORNEY RB 079431 13-14, 088583 13-01, 088625 13-05, 104362 13-12  
 FORREST IS 086700 13-03, 105117 13-16, 105405 13-06, 121258 13-03  
 FORREST WH 100261 13-16, 104365 13-14  
 FORTINI K 118129 13-08  
 FOURON J 105387 13-15  
 FOX M 102620 13-03  
 FOX PA 102196 13-04  
 FRACCHIA J 086704 13-14  
 FRAM DH 103248 13-14  
 FRANKENHEIM JM 094255 13-04  
 FRANKO BV 105407 13-03, 112001 13-05  
 FRANKOVA S 105999 13-14  
 FRANTZ AG 109042 13-13  
 FRANZEN G 091370 13-08, 105600 13-08, 106050 13-08  
 FRAZER A 087469 13-09  
 FREE SM 095536 13-08  
 FREEDMAN DX 098389 13-09, 098400 13-17, 098956 13-03  
 FREEDMAN M 092770 13-08  
 FREUDENHALL RI 082707 13-03  
 FREY H 107945 13-03  
 FREYBERGER H 125956 13-17  
 FREYCHET P 092377 13-03, 092898 13-06  
 FREYHAN FA 105554 13-17  
 FREYMUTH HW 100259 13-14

FRIEDEL RO 099887 13-08  
 FRIEDERICH P 098451 13-11  
 FRIEDHOFF AJ 098389 13-09, 098400 13-17  
 FRIEDMAN DE 099320 13-10  
 FRIEDMANN R 105084 13-15  
 FRISK-HOLMBERG M 099647 13-03, 123282 13-03  
 FRITCHE GE 082761 13-03, 086148 13-03,  
 086818 13-03, 088639 13-03  
 FROMENT J 099261 13-03  
 FRONTALI M 102097 13-04  
 FRUHAUF A 104789 13-13  
 FRY DE 077708 13-13  
 RU C 086577 13-01  
 FUJIMORI M 097447 13-13, 099337 13-12  
 FUKAYAMA G 105405 13-06  
 FUKUDA T 118968 13-16  
 FUKUNAGA M 114765 13-01  
 FULGINITI S 078012 13-03, 104373 13-04  
 FUNDERBURK WH 103947 13-04, 104174 13-04,  
 106154 13-02  
 FURCHGOTT E 121321 13-14  
 FURLANI AV 105710 13-03  
 FUSEK J 105991 13-03, 105993 13-03  
 FUXE K 082792 13-03, 086808 13-03, 107961  
 13-03, 120717 13-03, 122547 13-03  
 PYRO B 123281 13-03

## G

GABBA AK 078937 13-04  
 GAIARDI M 078936 13-04  
 GAINO R 109845 13-10  
 GAJZINSKA H 089151 13-15  
 GALEA V 126160 13-03  
 GALL H 087035 13-07, 126102 13-09  
 GALLANT DM 086893 13-11, 095536 13-08,  
 097555 13-07, 099157 13-07, 117022 13-08,  
 117025 13-04  
 GALLO G 100206 13-15  
 GALLUP GG 088069 13-04  
 GAMBACORTA D 111608 13-14  
 GANNON P 077822 13-08, 086937 13-08, 107244  
 13-08, 108569 13-14  
 GARATTINI S 086812 13-03, 101701 13-03,  
 102806 13-03, 104380 13-05, 107158 13-03,  
 108395 13-03, 108525 13-17  
 GARDINER AQ 099312 13-16, 099906 13-15  
 GARDNER R 109105 13-09  
 GARDOS G 102350 13-14  
 GARRETT R 125866 13-17  
 GARRIOTT JC 098636 13-13  
 GARRON DC 069514 13-14  
 GARVIN JS 069514 13-14  
 GASSNER S 088576 13-06  
 GATTI GL 082881 13-04, 086821 13-03  
 GATZ EE 108284 13-03  
 GAUDETTE LE 104372 13-16  
 GAUROM EF 102824 13-04, 104173 13-04  
 GAUT Z 120828 13-13  
 GAUTHIER R 105674 13-08  
 GAVRILOVA TM 111130 13-03  
 GAWIENOWSKI AM 102096 13-04  
 GAY GR 111517 13-14, 111518 13-14  
 GAY PE 120960 13-04  
 GAZZANIGA GC 114476 13-11  
 GEAGEA KC 074868 13-07  
 GEHARD RE 105426 13-03  
 GEIER S 093701 13-11  
 GEISLER A 087000 13-13  
 GELLER A 104796 13-04, 124104 13-02  
 GELLER E 092573 13-11  
 GELLER I 100565 13-04, 104433 13-04, 104536  
 13-03  
 GEMIGNANI G 096309 13-08  
 GENDRON JL 078944 13-08  
 GENEFKE IK 123280 13-03  
 GENEST P 086926 13-15, 109234 13-15  
 GENTLES W 104368 13-13  
 GERBER MJ 091102 13-06  
 GERBER GJ 089060 13-13  
 GERBER N 082782 13-03  
 GERNA M 108395 13-03  
 GERNER EW 095924 13-14  
 GERSON ES 092897 13-09, 098686 13-13  
 GERSON S 077823 13-09, 077989 13-03, 095538  
 13-09, 099110 13-04, 100540 13-08, 101897  
 13-09, 102535 13-12, 104142 13-04, 105084  
 13-15, 105885 13-08, 107045 13-03, 107864  
 13-05, 120964 13-04

GESSA GL 086107 13-03, 104010 13-03  
 GESSNER PK 087475 13-11  
 GEWIRTZ GP 093553 13-03  
 GHETTI B 099031 13-10  
 GHEZZI D 105400 13-04  
 GHOSH JJ 109418 13-03  
 GIARDINA AR 101966 13-04  
 GIBBINS RJ 110205 13-04  
 GIDLEY JT 082707 13-03  
 GIGON PL 108290 13-03, 122577 13-03  
 GILBERT DL 112001 13-05  
 GILDER SSB 110002 13-11  
 GILEV AB 111132 13-03  
 GILLESPIE FA 102798 13-09  
 GILLESPIE HK 095925 13-14  
 GILLIN JC 079833 13-14, 093258 13-14  
 GILMAN AG 100103 13-03  
 GILMOUR DG 092717 13-14  
 GINATH Y 110477 13-15  
 GINESTET D 097797 13-08  
 GIRDWOOD RH 103047 13-17  
 GIRKE W 125070 13-15  
 GIRVIN JP 102589 13-17  
 GITTELMAN-KLEIN R 093262 13-14  
 GIUFFRÉ R 111608 13-14  
 GIURGEA C 104145 13-04  
 GLANTS VL 111816 13-03  
 GLASS JB 085013 13-10  
 GLASSER AC 080630 13-02  
 GLEGG AM 089325 13-13  
 GLICK B 077823 13-09  
 GLICK SD 082771 13-04, 097739 13-04, 099697  
 13-04, 101352 13-04, 104795 13-04, 112315  
 13-04  
 GLOVER A 088679 13-04  
 GLOWINSKI J 082783 13-03, 082825 13-03  
 GLUECK BC 088265 13-08  
 GLUSMAN M 106688 13-04  
 GODWIN-AUSTEN RB 101988 13-11  
 GOFFIOL F 096113 13-07  
 GOLD B 095155 13-09  
 GOLD S 086576 13-13  
 GOLDBERG ME 106523 13-04, 107960 13-04  
 GOLDBERG SC 095221 13-08, 095536 13-08  
 GOLDBERG SR 082719 13-04  
 GOLDEN GS 101432 13-11  
 GOLDENBERG MM 104327 13-03  
 GOLDFARB J 097739 13-04  
 GOLDFELD M 086356 13-09  
 GOLDIN A 108525 13-17  
 GOLDMAN H 085192 13-11  
 GOLDSMITH LE 074828 13-15  
 GOLDSTEIN A 082727 13-03, 082781 13-04,  
 082828 13-03, 098926 13-03, 100938 13-04,  
 104009 13-03  
 GOLDSTEIN BJ 074974 13-10, 078941 13-08,  
 086897 13-10  
 GOLDSTEIN DB 082827 13-03, 094253 13-05  
 GOLDSTEIN J 100938 13-04  
 GOLDSTEIN L 087487 13-10, 105119 13-14  
 GOLDWURM GF 086768 13-17  
 GOLODETS RG 110120 13-11  
 GOLUB AM 099686 13-04  
 GONCALVES N 098625 13-07  
 GONG SMC 109197 13-03  
 GONIN D 100403 13-15  
 GONZALEZ SC 110036 13-04  
 GONZALEZ-BARCENA D 106761 13-14  
 GOODWIN F 088385 13-09, 092743 13-11,  
 095943 13-13  
 GOODWIN FK 079064 13-09, 085448 13-09,  
 088387 13-11, 092897 13-09, 093454 13-09,  
 098686 13-15, 108007 13-15  
 GORA S 105825 13-07  
 GORDON JH 117510 13-06  
 GORDON PE 100208 13-10  
 GORIDIS C 105950 13-03, 108792 13-03  
 GORKIN VZ 118566 13-03  
 GORODETZKY C 086822 13-03, 107885 13-16  
 GORROD JW 087115 13-03  
 GORSHECHNIKOVA YP 111137 13-03  
 GORSKI M 125418 13-05  
 GOSLING RH 104638 13-09  
 GOTTHGEN I 123279 13-03, 123289 13-03  
 GOTTESFELD Z 100508 13-03, 111216 13-03  
 GOTTFRIES CG 115395 13-13  
 GOZSY B 101959 13-03  
 GRABOWSKA M 104575 13-03  
 GRAGG BJ 111999 13-16

GRAHAM AW 111661 13-03  
 GRAHAM CW 101934 13-04  
 GRAHAME-SMITH DG 087124 13-03, 108795  
 13-03  
 GRAUPNER K 104789 13-13  
 GRAVES CL 119691 13-04  
 GRAVES GD 082822 13-15  
 GRAY JA 080109 13-04, 082858 13-04, 082859  
 13-04, 106392 13-04  
 GRAY P 079066 13-04  
 GREEN AR 104538 13-03  
 GREEN DE 105117 13-16  
 GREEN DM 122545 13-04  
 GREEN R 093258 13-14, 093260 13-10  
 GREENBLATT DJ 088142 13-17  
 GREENBURG J 082810 13-15  
 GREENE CS 089881 13-17  
 GREENE M 089286 13-05  
 GREENGRASS PM 104790 13-03  
 GREENWELL BE 099748 13-15  
 GREENWOLD WE 108231 13-11  
 GREENWOOD DT 100215 13-04  
 GREWAL RS 108288 13-03  
 GRIFFIN W 104472 13-03  
 GRIFFITH JD 104571 13-13  
 GRIGGS RC 099085 13-13  
 GRILSEN H 107160 13-03  
 GRILLY DM 107628 13-04  
 GRINEV AM 111290 13-03  
 GRIPENBERG J 111073 13-03  
 GROF P 101967 13-09, 102602 13-09  
 GROF S 116810 13-11  
 GROPPETTI A 082879 13-06, 089048 13-03  
 GROSHEV SI 108852 13-10  
 GROSS Y 088576 13-06  
 GROTE FW 101354 13-04  
 GROVE J 122552 13-13  
 GROVE VE 082031 13-15  
 GROVE-WHITE IG 120416 13-14  
 GRUMPELT HR 101578 13-04  
 GUAITANI A 101701 13-03, 104380 13-05,  
 107158 13-03  
 GUENSBERGER E 105925 13-09  
 GUERRERO-FIGUEROA R 086893 13-11, 099157  
 13-07, 117022 13-08, 117025 13-04  
 GUHA SR 125411 13-03  
 GUILLOU CE 097798 13-11  
 GUL'YANTS ES 111130 13-03  
 GULDBERG HC 083162 13-03, 099645 13-03  
 GULIDOVA GP 107725 13-03  
 GULLEDGE AD 108513 13-15  
 GUNAWAN B 115899 13-13  
 GUNBY B 088152 13-15  
 GUNNE L 104833 13-15, 105083 13-13, 123292  
 13-13  
 GUNSTONE RF 101990 13-16  
 GUPTA BD 078937 13-04, 102884 13-04  
 GUPTA ML 078937 13-04, 099650 13-03, 102884  
 13-04  
 GURALNICK MJ 088070 13-04  
 GUTH PS 108523 13-13  
 GUTMAN AM 111136 13-03  
 GUVENER Z 104798 13-13  
 GWYNNE JF 111724 13-15

## H

HAAS L 095622 13-11  
 HADLER AJ 074150 13-07  
 HADLIX J 101936 13-13, 101939 13-14, 102604  
 13-13, 105828 13-09  
 HADWIGER LA 108716 13-17  
 HAEFELY W 105408 13-02, 125596 13-03, 125960  
 13-03  
 HAERTZEN CA 092101 13-13  
 HAHN DL 104009 13-03  
 HAIDER I 099118 13-14, 107593 13-10, 107594  
 13-10  
 HAJM DB 086646 13-03  
 HAINE SE 079431 13-14  
 HAKE DF 082789 13-06  
 HALL CD 105547 13-11  
 HALL DJ 099312 13-16, 099906 13-15  
 HALL F 104616 13-13  
 HALL K 106918 13-08  
 HALLASMULLER T 123270 13-04  
 HALLIDAY J 101764 13-05, 120412 13-03  
 HAMBERGER B 112297 13-13  
 HAMILTON LL 090662 13-15

# Author Index

HAMMAR C 077931 13-16  
HAMMER O 095131 13-13  
HAMON NW 100169 13-03  
HAN H 105009 13-13  
HAN TH 103325 13-07  
HANCE AJ 100212 13-03  
HANDLARS MC 092154 13-09  
HANIG RC 088665 13-03  
HANKINSON JB 118568 13-03  
HANSEN V 098615 13-03  
HANSON HM 101702 13-03  
HANSON LCF 104140 13-03  
HANUS H 105830 13-09  
HANUS M 097798 13-11  
HARCUPI 088488 13-14  
HARDER A 098272 13-15  
HARDIN JA 099085 13-13  
HARE E 109105 13-09  
HARE HP 102215 13-10  
HARINATH M 099170 13-15  
HARLOW HF 093694 13-04, 108699 13-04  
HARRER G 122292 13-15  
HARRIS LS 094255 13-04  
HARRISON J 105890 13-11  
HARRISRS 104372 13-16  
HARRY TVA 102214 13-07  
HART NH 089286 13-05  
HARTMANN E 087348 13-14, 098921 13-15, 104831 13-14, 110192 13-04, 114514 13-04  
HARTMANN R 100565 13-04, 104433 13-04  
HARVEY JA 086171 13-03  
HASAN KZ 086522 13-09  
HASKOVIC L 097447 13-13, 106095 13-13  
HASLUND J 115395 13-13  
HASSINEN I 115044 13-03  
HASSLER R 126103 13-03  
HATTAB J 100537 13-07  
HATTORI C 105390 13-02  
HATTORI K 105391 13-03  
HAUGAARD N 101847 13-03  
HAWKING F 108525 13-17  
HAWKINS SF 118568 13-03  
HAWLEY WD 106761 13-14  
HAWORTH CC 105547 13-11  
HAYASHI S 120350 13-10  
HAYASHIDA K 105406 13-03  
HAYAT M 106604 13-11  
HEDBERG DL 088265 13-08  
HEDGES A 102214 13-07  
HEFNER M 106523 13-04  
HEIFETZ SA 104809 13-04  
HEIMANN H 087669 13-16, 099030 13-08  
HEINEMANN LG 107244 13-08  
HEINIG P 078163 13-14  
HEISE GA 086901 13-04  
HEISER JF 079833 13-14  
HEITMANN R 089212 13-15  
HEKIMIAN L 101897 13-09  
HELFER H 104964 13-03, 118200 13-02  
HELLBERG K 087032 13-13  
HELLER A 079289 13-10  
HELLER B 097447 13-13  
HELLER S 095156 13-08  
HELLMANN G 088637 13-03  
HELMACHEN H 089070 13-09, 099030 13-08  
HEMLI JA 125996 13-11  
HENINGER GR 098612 13-14, 100271 13-13, 125569 13-13  
HENRIKSSON BG 086155 13-04, 104138 13-04, 106393 13-04  
HENRY BW 103912 13-14  
HENRY GM 092897 13-09  
HENSLE JH 086251 13-03  
HERINK J 106092 13-03  
HERMAN Z 124105 13-03, 125163 13-03, 125422 13-05  
HERR F 082793 13-03, 105013 13-04  
HERRING BS 098924 13-04  
HERSHMAN JM 088725 13-13  
HERSHON HI 099120 13-15  
HERTTING G 088637 13-03  
HERZ MJ 104377 13-04  
HERZBERG BN 100131 13-15  
HESBACHER P 092162 13-07, 121476 13-11  
HESTON JA 099453 13-03  
HEU P 105014 13-03  
HEYD G 120718 13-03  
HIBBS-TREACY M 109358 13-04  
HIGGINBOTHAM WE 077932 13-08

HILL HF 105404 13-03  
HILL RM 108976 13-14  
HILLE JA 095743 13-15  
HILTON AM 110043 13-15  
HILTON B 109195 13-03  
HIMMELHOCH JM 088725 13-13  
HIMWICH HE 097447 13-13, 099345 13-09  
HIMWICH WA 099335 13-03  
HIMWICHEN 107959 13-03  
HINES LR 095539 13-10  
HIPPIUS H 099027 13-17, 099030 13-08  
HIRATA J 111589 13-13  
HIROSE K 116154 13-03  
HIRSCHHORN ID 106489 13-04  
HIRST CA 120830 13-13  
HITOMI M 111146 13-04  
HITZEMANN RJ 101543 13-03  
HLINAK Z 092317 13-04  
HO BT 082761 13-03, 082762 13-01, 086148 13-03, 086818 13-03, 088639 13-03  
HOBBS GE 102833 13-08  
HOCH J 089284 13-03  
HOCKMAN CH 088973 13-04  
HODGEN GDA 102096 13-04  
HOELDTKE R 104363 13-14  
HOFFER A 082736 13-17, 098976 13-08, 108837 13-08  
HOFFER BJ 082862 13-06, 107113 13-06, 125594 13-03  
HOFMANN A 102733 13-03  
HOLBROOK JR 122537 13-03  
HOLCOMB R 082782 13-03  
HOLDEN JMC 077822 13-08, 086937 13-08, 088153 13-07  
HOLDEN M 108569 13-14  
HOLLISTER LE 069320 13-13, 077932 13-08, 078956 13-07, 088148 13-10, 093925 13-14, 097378 13-11, 098916 13-14, 108696 13-09  
HOLLOWAY FA 101741 13-04  
HOLMES MA 121258 13-03  
HOLMSTEDT B 077931 13-16  
HOLSTEIN C 098888 13-12  
HOLTZMAN SG 104574 13-03, 107631 13-04  
HOM FS 100829 13-17  
HOMMES OR 093815 13-09  
HONECKER H 123284 13-03, 123291 13-03  
HONIGFELD G 088295 13-17  
HOOD P 098733 13-14  
HOOPER AC 098772 13-15  
HOPKINS HK 106918 13-08  
HOPPER DJ 078250 13-02  
HORITA A 105404 13-03  
HORODNICKI J 118204 13-08, 118205 13-08, 118209 13-09  
HORWITZ D 093258 13-14  
HOSEIN EA 082765 13-03  
HOSICK EC 111343 13-13, 111344 13-13, 111839 13-14  
HOUCK JH 088265 13-08  
HOUSER VP 110186 13-04  
HOWARD AJ 106136 13-13  
HOWARD C 092573 13-11  
HOWARD JL 104539 13-04  
HOWARD K 079432 13-10  
HOWARD PJ 106136 13-13  
HOYER I 106911 13-03  
HRBEK J 105908 13-14, 105915 13-14, 105916 13-14, 105918 13-14, 105995 13-14, 105997 13-14, 106002 13-04  
HRDINA PD 086811 13-03, 099652 13-05  
HRDINA V 106092 13-03  
HSU W 087001 13-13, 103325 13-07, 105009 13-13, 107244 13-08, 108569 13-14, 108701 13-08, 115401 13-08  
HUBBARD JI 109621 13-03  
HUBBARD P 106491 13-03  
HUBER W 098613 13-08  
HUCKER HB 108398 13-03  
HUDAKOVA G 087136 13-15  
HUFF JA 077868 13-03  
HUG CC 082791 13-03  
HUGHES IE 105411 13-03  
HUGHES WM 100438 13-16  
HUIDOBRO F 086809 13-04, 103655 13-03, 104328 13-03  
HUITRIC AC 082764 13-01  
HURST PM 111207 13-14, 113919 13-13  
HURWITZ DA 100216 13-03  
HUSSAIN MA 089349 13-15

HUSSAIN AZ 089329 13-15, 092693 13-15, 092841 13-10, 093231 13-14, 099170 13-15  
HUSSAIN Z 085689 13-08  
HUSSEIN H 089216 13-11  
HUTTUNEN MO 099828 13-03  
HYNEK K 086077 13-13  
  
IABLONSKIKH PM 102827 13-13  
IBUKA N 103040 13-04  
IDANPAAN-HEIKILA J 086818 13-03, 088639 13-03, 106147 13-03  
IDOYAGA-VARGAS V 088285 13-03  
IGONIN AL 113750 13-09  
IL'ON GI 102653 13-08  
IMBACH P 097553 13-15  
IMIELINSKI K 123352 13-14  
INMAN DP 102390 13-04  
INUI T 123049 13-10  
IRIYE TT 108283 13-03  
IRANIS F 106094 13-03  
IRWIN DS 093270 13-17  
IRWIN S 104137 13-04  
ISAAC M 106136 13-13  
ISAAC W 079067 13-04, 106694 13-04  
ISBELL H 092101 13-13  
ISCH F 121796 13-13  
ISCH-TRUSSARD C 121796 13-13  
ISHAQUE M 087365 13-03  
ISHII H 100792 13-13  
ISRAEL MA 105518 13-03  
ITIL T 066937 13-08, 105008 13-08, 105009 13-13, 107244 13-08, 125568 13-08  
ITIL TM 077822 13-08, 087001 13-13, 088153 13-07, 103325 13-07, 107630 13-16, 107755 13-08, 108569 13-14, 108701 13-08, 115401 13-08, 118668 13-16  
ITO K 123046 13-14  
IVANOVA RV 102826 13-17  
IVERSEN LL 082721 13-03, 089027 13-04, 104007 13-03  
IVERSEN SD 073309 13-04, 089027 13-04  
IWAHARA S 117747 13-04, 125253 13-04  
IWAI S 123047 13-13  
IWATA N 125324 13-03, 125327 13-03  
IZQUIERDO I 077922 13-03, 103944 13-04  
IZQUIERDO JA 077922 13-03, 104577 13-04  
IZUKAWA T 077912 13-15

JAATTELA A 102194 13-14  
JACKSON DM 112287 13-03  
JACKSON G 100133 13-13  
JACKSON RL 086938 13-03  
JACOBS BL 095549 13-04  
JACOBS MA 108268 13-17  
JAENICKE U 099032 13-08  
JAFKE JH 091592 13-07  
JAFKE PG 103951 13-04  
JAGENBURG R 099851 13-13  
JAIN NC 088583 13-01  
JAIN VK 088488 13-14, 101896 13-09  
JALFRE M 105408 13-02, 125960 13-03  
JAMES IP 100496 13-15  
JAMES JF 104441 13-13  
JAMES NM 115887 13-17  
JANDACEK RJ 113974 13-01  
JANDHYALA BS 122548 13-03, 125650 13-03  
JANKU I 104704 13-06  
JANOVSKY F 105836 13-09  
JANOWSKY DS 098750 13-13, 104571 13-13, 110462 13-17, 112538 13-07  
JANSEN GA 100168 13-16  
JANSSEN PAJ 077701 13-08  
JANSSON S 111073 13-03  
JANUS T 110474 13-07  
JAQUES R 104964 13-03, 118200 13-02, 118201 13-05  
JARBE T 086155 13-04, 104138 13-04, 106393 13-04  
JARECKI HG 113926 13-17  
JAROWSKI CI 078164 13-03  
JARROLD L 077431 13-14, 100539 13-10  
JARVIK LF 090765 13-15  
JARVIK M 124104 13-02  
JARVIK ME 099697 13-04, 104796 13-04, 105079 13-04

JARVIS MJ 105011 13-14  
 JASINSKI DR 088400 13-13, 092101 13-13,  
 094938 13-13, 095003 13-13, 104363 13-14  
 JAWORSKA K 118130 13-09  
 JAYARAM VK 093774 13-11, 098229 13-14  
 JELLINEK P 099651 13-05  
 JENKINS AC 106483 13-15  
 JENKINS BW 092162 13-07, 100208 13-10,  
 102213 13-10  
 JENKINS RW 115898 13-06  
 JENSEN GR 104025 13-17  
 JENSEN OH 100809 13-11  
 JEWETT RE 082787 13-04, 104574 13-03, 106525  
 13-04, 107631 13-04  
 JHAMANDAS K 104537 13-03  
 JILEK JO 105824 13-02  
 JINDROVA M 101418 13-11  
 JOHANSSON T 107596 13-11  
 JOHNSON AL 100131 13-15, 106063 13-11  
 JOHNSON AW 079832 13-14  
 JOHNSON BD 105089 13-15  
 JOHNSON CL 079413 13-01  
 JOHNSON DG 082784 13-03  
 JOHNSON DN 103947 13-04, 104174 13-04,  
 104154 13-02  
 JOHNSON FN 082759 13-04, 086900 13-04  
 JOHNSON G 101897 13-09  
 JOHNSON JT 078452 13-04  
 JOHNSON KD 109636 13-04  
 JOHNSON LC 106132 13-11  
 JOHNSON RP 077991 13-02  
 JOHNSON S 100418 13-13  
 JOHNSTON GAR 104007 13-03  
 JOHNSTONE RE 102916 13-15  
 JOLLEY D 097556 13-10  
 JONES B 099261 13-03  
 JONES IH 088729 13-13  
 JONES J 105008 13-08, 125568 13-08  
 JONES JR 108284 13-03  
 JONES KS 100807 13-08  
 JONES LG 091102 13-06  
 JONES MEL 120409 13-03  
 JONES PR 108231 13-11  
 JONSSON G 107961 13-03  
 JONSSON L 105083 13-13, 123292 13-13  
 JONSSON M 123293 13-03  
 JORDAN CR 078453 13-04  
 JORDAN WS 119691 13-04  
 JORGENSEN A 098615 13-03  
 JORGENSEN PB 095622 13-11  
 JORI A 086812 13-03, 118564 13-03, 120467  
 13-03  
 JOSEPH T 098306 13-04  
 JOUPPILA P 088540 13-13  
 JOUVET M 099261 13-03  
 JOY RM 100212 13-03  
 JOY V 105060 13-04  
 JOYCE D 086771 13-04, 093953 13-04  
 JUCKER E 111877 13-17  
 JUDSON BA 082828 13-03  
 JUSTICE JB 122536 13-03  
 JUVANCP Z 100132 13-13

## K

KABES J 105991 13-03, 105992 13-03, 105993  
 13-03, 105994 13-04  
 KACZYNSKI J 118127 13-08  
 KADLECOWA O 105996 13-04  
 KADYKOVA M 100334 13-03  
 KAEHLING R 086417 13-13, 090499 13-07  
 KAFKA J 086073 13-13  
 KAGAN J 118690 13-14  
 KAGEN LJ 090662 13-15  
 KAHONEN MT 115044 13-03  
 KAIM SC 095543 13-11, 097378 13-11  
 KALANT H 088973 13-04, 110205 13-04  
 KALDOR A 100132 13-13  
 KALES A 079234 13-14, 092573 13-11, 104367  
 13-14  
 KALES J 079234 13-14, 104367 13-14  
 KALMAN E 104789 13-13  
 KAMADA M 088626 13-03  
 KAMENSKAIA VM 102711 13-17  
 KAMIJO K 100100 13-03  
 KAMIOKA T 114765 13-01, 116385 13-02  
 KAMYANOV IM 113747 13-11  
 KANDEL ER 102512 13-03  
 KANE FJ 087268 13-15  
 KANEKO Z 123049 13-10  
 KANETO H 102885 13-04, 125326 13-03  
 KANG HK 102391 13-03  
 KANGAS JA 085478 13-03  
 KANIG K 087002 13-17  
 KANOWSKI S 089070 13-09, 125070 13-15  
 KANZLER M 088143 13-07, 092801 13-09  
 KAPADIA GJ 069047 13-12  
 KAPELSKI Z 125786 13-09  
 KAPLAN BB 087125 13-06  
 KAPLAN RM 086896 13-07  
 KARAKHODZHAYEVA IB 113429 13-08  
 KARIKS J 108727 13-15  
 KARKI NT 088540 13-13  
 KASTIN AJ 106761 13-14  
 KASTRIUP KW 100845 13-11  
 KATO L 101959 13-03  
 KATO T 090765 13-15  
 KATZ G 077932 13-08  
 KATZ MH 077992 13-04  
 KAUBISH VK 109947 13-14  
 KAUFMAN S 092896 13-01  
 KAUFMANN JS 104571 13-13  
 KAUL CL 108288 13-03  
 KAWANO Y 114765 13-01  
 KAY DC 088360 13-14  
 KAYAN S 086105 13-04, 125242 13-04  
 KAYE RC 120830 13-13  
 KAZDOVA E 105838 13-04  
 KEHOE MJ 082839 13-17  
 KEIM KL 107963 13-03  
 KELLAM AMP 100807 13-08  
 KELLEHER WJ 100171 13-01  
 KELLEY D 100780 13-10  
 KELLNER R 096018 13-17, 100535 13-10, 108484  
 13-10  
 KELLOGG C 115310 13-03  
 KELLY DD 106688 13-04  
 KELLY EA 092162 13-07  
 KELLY JF 087289 13-06  
 KELLY JT 087031 13-13  
 KELTER A 103654 13-03  
 KEMP JW 093933 13-03, 107944 13-03  
 KENDLER J 118569 13-05  
 KENNEDY PF 099120 13-15  
 KEOGH RP 108838 13-08  
 KEPHALAS TA 098557 13-03  
 KEPNER K 107963 13-03  
 KERRY RJ 088243 13-10, 104638 13-09  
 KESKINER A 077822 13-08, 086937 13-08,  
 103325 13-07, 105009 13-13, 107244 13-08,  
 115401 13-08  
 KESSELL A 082822 13-15  
 KESSLER WV 087061 13-03  
 KHAVARI KA 086423 13-04  
 KHAZAN N 086106 13-03  
 KIDMAN AD 087123 13-03  
 KIDO R 098305 13-03  
 KIELHOLZ P 118365 13-09  
 KIHIMOTO A 118969 13-10  
 KILLAM KF 100212 13-03  
 KILOH LG 078156 13-09  
 KIM JS 126103 13-03  
 KIM SS 105885 13-08  
 KIMBELL I 077932 13-08, 100438 13-16  
 KIMURA ET 077991 13-02  
 KIMURA K 116383 13-15  
 KING CD 082787 13-04, 108524 13-14  
 KING EJ 100206 13-15  
 KING WT 104329 13-03  
 KINOHI R 104137 13-04  
 KIPLINGER GF 079431 13-14, 104362 13-12  
 KIRCH JD 110185 13-04  
 KIREMITTI N 115401 13-08  
 KISELEVA IP 111294 13-03  
 KISSEL JW 088624 13-06  
 KITTMANN H 089150 13-11  
 KIVI R 107653 13-15  
 KLAIBER EL 088596 13-14, 104616 13-13  
 KLAUSNER HA 082733 13-03  
 KLAUWANS HL 069514 13-14, 103204 13-15,  
 123464 13-13  
 KLEIN DC 106059 13-03  
 KLEIN DF 088295 13-17, 092770 13-08, 093262  
 13-14, 095542 13-10, 099818 13-11  
 KLEINBERG DL 109042 13-13  
 KLEINROK Z 104434 13-03  
 KLERMAN GL 095537 13-09

KLETT CJ 095535 13-17, 097378 13-11, 106066  
 13-08  
 KLETT J 109315 13-17  
 KLIMO Z 086073 13-13, 112443 13-09  
 KLIMUSHEVA TA 102715 13-17  
 KLINE NS 083163 13-07, 089002 13-09, 126181  
 13-17  
 KLING A 085419 13-04, 101934 13-04  
 KLINGENBERG H 108569 13-14, 108701 13-08  
 KLOTZ SD 082735 13-17  
 KLUBES P 088517 13-03  
 KLUWE S 123267 13-03, 123291 13-03  
 KLYGUL TA 111134 13-04  
 KAMIECIK-KOLADA K 124105 13-03, 125163  
 13-03  
 KNAPP DR 086796 13-01  
 KNAPP PH 108268 13-17  
 KNAPP S 100219 13-03  
 KNILL-JONES RP 111963 13-15  
 KNOLL J 123270 13-04  
 KNOWLES JA 077933 13-13  
 KO GW 082765 13-03  
 KOBAYASHI S 116385 13-02  
 KOBAYASHI Y 104616 13-13  
 KOBINGER W 106149 13-03  
 KOCH E 087003 13-13  
 KOCHERGA VI 111765 13-03  
 KOCHOVA E 092324 13-13  
 KOESTER AG 104136 13-04  
 KOFFER K 079769 13-14  
 KOHAMA A 119691 13-04  
 KOHLI RP 099650 13-03, 104807 13-06  
 KOHNO T 094791 13-01  
 KOIDA M 125326 13-03  
 KOJECKA I 118130 13-09  
 KOKNEL O 095157 13-09  
 KOLARIK J 106000 13-13, 106001 13-13  
 KOLB LC 098389 13-09, 098400 13-17  
 KOMENDA S 105915 13-14, 105916 13-14,  
 105918 13-14, 105995 13-14, 105997 13-14,  
 106002 13-04  
 KONIG J 106095 13-13, 106097 13-15  
 KONIG L 104226 13-07  
 KONIKOVA M 105930 13-08  
 KOPIN U 082784 13-03, 082786 13-03, 085956  
 13-13, 092894 13-13, 093553 13-03, 103948  
 13-03, 108525 13-17  
 KOREIN J 095924 13-14  
 KORF J 104793 13-04, 104829 13-13, 104832  
 13-13  
 KORMENDY CG 095301 13-17  
 KORN M 096113 13-07  
 KORNETSKY C 104579 13-04  
 KOROENKO TP 108852 13-10  
 KORSAK Z 098300 13-04  
 KORTA B 122946 13-11  
 KORTE F 104578 13-04  
 KOSLACZ-FOLGA A 123890 13-07  
 KOSLOW SH 082880 13-03  
 KOSTOWSKI W 108032 13-04  
 KOTASEK A 106091 13-16  
 KOWA Y 098303 13-03  
 KOWARZYKOWA Z 118205 13-08  
 KOZHUKHOVSKAYA II 118010 13-08  
 KRAFT I 098894 13-14  
 KRAL PA 105766 13-04  
 KRAMER MS 089039 13-16  
 KRAML M 102735 13-13  
 KRASILEWICZ R 089301 13-09  
 KRATKY M 088733 13-03  
 KRAU D 123268 13-03  
 KRAUSE RD 082763 13-06  
 KRAUSS B 103797 13-14  
 KRAVITZ EA 108473 13-11  
 KRENIS LJ 122540 13-03  
 KRETSCHMER B 107945 13-03  
 KRETSCHMAR R 123278 13-03  
 KRIP G 108793 13-03  
 KRIVITSKAYA GN 111137 13-03  
 KROP S 077992 13-04  
 KRISAK M 104704 13-06, 105907 13-03, 105996  
 13-04, 105998 13-02  
 KRUEGER RJ 100171 13-01  
 KRUGER E 098297 13-04  
 KRULIK R 089136 13-03  
 KRYLOV SS 107719 13-03  
 KRYSIKA-DOCKAL H 119689 13-05  
 KRYSPIN-EXNER K 126041 13-15

# Author Index

KRYSTOF J 118127 13-08  
 KRZYZOWSKI J 118208 13-09, 122945 13-17  
 KUBENA RK 079430 13-03  
 KUBICKOVA Z 086077 13-13  
 KUCZENSKI RT 101718 13-04  
 KUENMERLE HP 125866 13-17  
 KUJAR MJ 077855 13-03  
 KUIPER HE 104793 13-04  
 KUKLENKO VG 107726 13-03  
 KUKUCOVA H 105826 13-08, 105923 13-08, 105930 13-08  
 KULENKAMPFF C 098230 13-09  
 KULSHRESTHA VK 120929 13-03  
 KULYGINA AA 118566 13-03  
 KUMAR R 096150 13-04, 104436 13-04, 104827 13-04, 110177 13-04  
 KUMASHIRO H 111589 13-13  
 KUMBIER E 098294 13-05  
 KUMPEL O 105834 13-14  
 KUNATH B 104226 13-07  
 KUNZ K 106096 13-03  
 KUPFER D 122580 13-03  
 KUPFER DJ 090929 13-14, 099063 13-14, 104364 13-16, 114911 13-09  
 KURCHAKSI JM 103647 13-04  
 KURIHARA M 123048 13-17  
 KURIYAMA K 082756 13-03, 088284 13-03, 088558 13-03, 105518 13-03  
 KURLAND AA 099156 13-07, 116810 13-11  
 KUROCHKIN IG 112007 13-04  
 KUROSAWA Y 100100 13-03  
 KUSCHINSKY K 123273 13-03  
 KUSUMI Y 107444 13-15  
 KVASHNIN VF 108852 13-10  
 KVTNANSKY R 093553 13-03, 103948 13-03  
 KWANT WO 108396 13-03

**L**

LA GRUTTA V 103653 13-03  
 LACEY DJ 079423 13-04  
 LACEY JH 107872 13-17  
 LACKROY GH 100811 13-10  
 LADER M 112083 13-17  
 LADER MH 087363 13-14, 087364 13-13, 105011 13-14  
 LADINSKY H 103650 13-03  
 LADOU A 123278 13-03  
 LAGERSPETZ KAJ 087119 13-05  
 LAGERSPETZ KY 087119 13-05  
 LAGRUE R 089134 13-15  
 LAIRD RD 104366 13-11  
 LAKOZA GN 111292 13-03  
 LAL H 106920 13-03, 107943 13-04, 111142 13-04  
 LAL S 106428 13-03  
 LALLEY PM 122541 13-03  
 LANDAUER AA 101615 13-14  
 LANG WJ 088679 13-04  
 LANGE E 104226 13-07  
 LANGFELDT T 104808 13-04  
 LANGGARD H 123280 13-03  
 LANGS RJ 090690 13-12  
 LANGSLET A 103311 13-03, 120719 13-03  
 LAPIN IF 106426 13-03  
 LAPLANTE M 100598 13-14  
 LAQUER KG 103626 13-10  
 LARIN F 088702 13-03  
 LAROUSSE C 091558 13-02, 100214 13-06  
 LARSSON K 104431 13-04, 125165 13-04  
 LASAGNA L 069516 13-17, 095534 13-17, 104366 13-11, 120468 13-03  
 LASKIN DM 089881 13-17  
 LASSEN JB 123272 13-03, 123277 13-03  
 LATANE B 105060 13-04  
 LATTAL KA 094956 13-03  
 LAURANCE BM 113999 13-15  
 LAURENCE DR 120418 13-13  
 LAUTER H 103797 13-14  
 LAVY S 110477 13-15  
 LAYCOB L 104086 13-08  
 LAYMAN JM 087358 13-03  
 LE FEVRE CG 109014 13-13  
 LEAHY JP 104539 13-04  
 LEARY T 073413 13-12  
 LEAVITT F 069514 13-14  
 LEBEL E 100598 13-14  
 LEBLANC AE 102195 13-04, 107629 13-04, 110205 13-04

LEBOEUF BJ 104377 13-04  
 LECKMAN J 098611 13-11  
 LEE CH 100419 13-13  
 LEE CT 101738 13-04  
 LEE CY 108615 13-03  
 LEE JH 077913 13-08  
 LEE RV 082829 13-15  
 LEELING N 077871 13-03  
 LEFEVRE A 100792 13-13  
 LEFEVRE D 104145 13-04  
 LEFF JP 101527 13-08  
 LEHMANN H 105673 13-08  
 LEHMANN HE 074868 13-07, 077431 13-14, 078942 13-11, 085460 13-15, 086572 13-14, 098507 13-11, 098601 13-13, 098611 13-11, 100260 13-07, 101564 13-10  
 LEHMANN K 098295 13-04  
 LELE KP 092717 13-14  
 LEMBERGER L 082786 13-03, 092894 13-13  
 LENNARD-JONES JE 087867 13-17  
 LENNOX-BUCHTHAL M 100844 13-11  
 LENZ H 125991 13-09  
 LEON M 095383 13-04  
 LEONARD BE 074843 13-03, 077892 13-03, 082729 13-04, 100218 13-03, 104573 13-04, 105403 13-03, 108794 13-03, 115043 13-03  
 LEPPALUOTO J 077428 13-03  
 LERNER H 082735 13-17  
 LESCRENIER C 104145 13-04  
 LESENA BA 111136 13-03  
 LESENEY JL 087082 13-02  
 LESLIE CA 100508 13-03  
 LESTER BK 105007 13-14  
 LEUNER H 083378 13-12  
 LEVIDOW L 095924 13-14  
 LEVINE J 069197 13-08, 095532 13-17  
 LEVINE R 079314 13-17  
 LEVINSON R 095155 13-09  
 LEW C 089027 13-04  
 LEWANDER T 088539 13-03, 125166 13-03  
 LEWIS DV 086822 13-03  
 LEWIS SA 092160 13-12  
 LEWIS WH 088147 13-15  
 LI KC 111128 13-15  
 LICHTLEN P 097553 13-15  
 LICO MC 106145 13-04  
 LIDBRINK P 086808 13-03, 107961 13-03  
 LIDVALL HF 104833 13-15  
 LIEBER C 089191 13-13, 100792 13-13  
 LIEBERMAN BW 079356 13-14  
 LIEBERMAN CM 079356 13-14  
 LIEBESKIND JC 097446 13-03  
 LIEBMANN H 098294 13-05  
 LIEBMANN JA 087117 13-01  
 LIETZ W 100505 13-03, 103946 13-04  
 LIKOVSKY Z 105840 13-03  
 LILIE DR 112313 13-04  
 LIND C 102188 13-04  
 LINDEN J 098625 13-07  
 LINDNER LA 085192 13-11  
 LING GM 086811 13-03, 099652 13-05  
 LINKEN A 101667 13-14  
 LINN LS 093860 13-17, 108270 13-17  
 LINNOILA M 077428 13-03  
 LINTS CE 086171 13-03  
 LIPMAN RS 092456 13-10, 095539 13-10, 104143 13-10  
 LIPPER S 104579 13-04  
 LIPPMAH W 106526 13-03  
 LIPSCOMB W 101864 13-13  
 LIPSEDE MS 099320 13-10, 104830 13-09  
 LIPSITT DR 098691 13-17  
 LISKA JK 082729 13-04  
 LISON H 119553 13-03  
 LITT IF 101432 13-11  
 LIVTAK R 086417 13-13  
 LIU PL 122540 13-03  
 LIUZZI SE 117581 13-03  
 LIVESEY J 110191 13-04  
 LLOYD CW 099658 13-13  
 LLUCH S 099647 13-03  
 LOBO-ANTUNES J 111004 13-17  
 LOCKER D 106146 13-03  
 LOCOCK RA 082763 13-06  
 LOH HH 101543 13-03, 108615 13-03  
 LOIZOU LA 089441 13-03  
 LOIZZO A 111143 13-03  
 LOMAX P 085487 13-03  
 LONDON L 096017 13-08

LONDON WL 077909 13-15  
 LONG JP 087062 13-02  
 LONGO VG 105342 13-04, 111143 13-03  
 LOO H 097797 13-08  
 LOSIECZKO T 118129 13-08  
 LOSSNER B 119690 13-04, 122046 13-03  
 LOTT I 106308 13-11  
 LOURIE RS 098389 13-09, 098400 13-17  
 LOVEGROVE TD 102833 13-08  
 LOWE G 099685 13-04, 104576 13-04  
 LOWENSTAM I 100412 13-14  
 LOWRY BR 082764 13-01  
 LOY PR 088638 13-06  
 LU LM 096021 13-11  
 LUBETKIN BS 090725 13-11  
 LUBIN M 095383 13-04  
 LUBY ED 102880 13-15  
 LUCAS AR 095311 13-15  
 LUCCIONI H 090792 13-13  
 LUDWIG BJ 108521 13-13  
 LUKE CM 111564 13-15  
 LUNDBORG P 115310 13-03, 120819 13-03  
 LUNDSTROM J 100170 13-01  
 LUNDWALL L 112201 13-14  
 LWOFF J 091558 13-02  
 LYLE WH 102140 13-13  
 LYNN GS 104432 13-04  
 LYNN JC 107628 13-04  
 LYNN EJ 089818 13-15  
 LYNN R 082782 13-03  
 LYTLE LD 106797 13-04  
 LYUBIMOV BI 111291 13-03

**M**

MAAS JW 085419 13-04, 101934 13-04  
 MACAKOVA J 105915 13-14, 105916 13-14, 105918 13-14, 105995 13-14, 105997 13-14  
 MACARAE PVJ 069516 13-17  
 MACDONALD MRA 086993 13-11  
 MACDONNELL MF 101287 13-03, 101748 13-04  
 MACEDO C 111004 13-17  
 MACINNES JW 086806 13-03  
 MACK JW 101434 13-10  
 MACKAY DN 098736 13-14, 099440 13-09, 099747 13-14  
 MACKIE L 098143 13-11  
 MACLAINE GN 113999 13-15  
 MACLEAN AW 110189 13-14  
 MACLEAN PD 105426 13-03  
 MACPHERSON CFC 085236 13-04  
 MADDEX BE 101578 13-04  
 MADER R 126041 13-15  
 MADLAFOUSEK J 092317 13-04  
 MADOW L 115196 13-13  
 MAGGINI C 099031 13-10  
 MAGGS R 109105 13-09  
 MAGOWAN S 088488 13-14  
 MAICKEL RP 106492 13-03  
 MAINES MD 125329 13-03  
 MAITRE L 102696 13-03  
 MAJ J 104575 13-03  
 MAJCHOWICZ E 098290 13-03  
 MAJCHOWICZ E 096452 13-13  
 MAJIMA K 118969 13-10  
 MAKEYEVA VL 113750 13-09  
 MALCOLM MT 107595 13-11  
 MALICK JB 125247 13-04  
 MALIN DH 099686 13-04  
 MALIN S 101758 13-04  
 MALITZ S 088143 13-07, 092801 13-09, 092932 13-09, 107546 13-13  
 MALLER O 095156 13-08  
 MALLESON N 099307 13-12  
 MALONE MH 091281 13-02  
 MANDELL AJ 100219 13-03, 101718 13-04  
 MANECKEE A 086811 13-03  
 MANIAN AA 094791 13-01, 104372 13-16  
 MANITSAS GT 102916 13-15  
 MANNING GJ 107865 13-03  
 MANNING FJ 101935 13-03  
 MANNISTO P 077428 13-03, 102194 13-14, 103314 13-05  
 MANNO JE 079431 13-14, 088583 13-01, 104362 13-12  
 MANSART R 107886 13-15  
 MANSKY PA 088400 13-13, 094938 13-13  
 MARCHAND C 099801 13-03  
 MARCIAN K 118208 13-09

- MARCUCCI F 101701 13-03, 102806 13-03,  
104380 13-05, 107158 13-03  
MARCUS RJ 082860 13-04  
MARCZYNSKI TJ 088543 13-03  
MARGOLIS R 092770 13-08  
MARGULIES P 108719 13-05  
MARINOW A 108704 13-15  
MARJERRISON G 108838 13-08  
MARKETTE JR 103912 13-14  
MARKHAM JK 099696 13-05  
MARKIN VA 111703 13-03, 113522 13-03  
MARKOVA LN 105726 13-03  
MARKS IM 109845 13-10  
MARKS V 077708 13-13  
MARLEY E 109194 13-03  
MAROSSYOVA E 105827 13-14  
MARQUES PR 085333 13-04  
MARRA M 096310 13-09, 121458 13-08  
MARRAZZI AS 077427 13-17  
MARRIOTT AS 086772 13-04  
MARRIOTT PF 082822 13-15  
MARSDEN CA 099645 13-03  
MARSH GG 108473 13-11  
MARSHALL MH 091119 13-10  
MARSHALL WK 105889 13-10  
MARTEAU R 089134 13-15  
MARTIN AR 108716 13-17  
MARTIN DJ 090499 13-07  
MARTIN M 112085 13-14  
MARTIN RC 098483 13-04  
MARTIN TW 088685 13-03  
MARTIN WE 095426 13-15  
MARTIN WR 088360 13-14, 088400 13-13,  
094938 13-13, 095003 13-13, 104363 13-14,  
107885 13-16  
MARTIN-DUPAN R 125289 13-13  
MARTZ RAW 104578 13-04, 125251 13-04  
MASCARO G 106004 13-11  
MASEK K 105998 13-02  
MASHKOVSKII MD 107728 13-13, 111290 13-03  
MASON E 120970 13-17  
MASON PL 088641 13-03  
MASOTTI RE 101560 13-11  
MASSAC C 077430 13-08, 105674 13-08  
MASUDA H 116383 13-15  
MASUOKA DT 086810 13-03, 104172 13-03  
MASUR J 104578 13-04, 125251 13-04  
MATHE AA 106429 13-13  
MATSUMOTO M 104786 13-04  
MATSUMOTO C 104472 13-03  
MATSUMOTO N 116383 13-15  
MATSUSHITA A 098305 13-03  
MATSUSHITA K 125253 13-04  
MATTHIES H 080632 13-03, 086805 13-03,  
098294 13-05, 100505 13-03, 100506 13-03,  
103945 13-04, 103946 13-04, 119690 13-04,  
122046 13-03  
MATTKE DJ 095150 13-08  
MATUSSEK N 103794 13-15  
MATVEEV VF 102792 13-03  
MATVEYEVA TS 111137 13-03  
MAURUSCHAT W 125070 13-15  
MAXEY GC 094956 13-03  
MAXIMILIAN C 092717 13-14  
MAXWELL C 111658 13-11  
MAY PRA 103237 13-17  
MAYER DJ 097446 13-03  
MAYER O 106910 13-04  
MAYER SR 105413 13-04  
MAYES AR 082858 13-04  
MAYSE JE 105362 13-04  
MCARDLE N 098483 13-04  
MCCABE MS 085407 13-07  
MCCANN SM 125330 13-03  
MCCONNELL JV 099686 13-04  
MCCORMICK WO 100736 13-10  
MCCOY DF 111052 13-04  
MCDERMOTT CM 088243 13-10  
MCDONOUGH JH 101935 13-05  
MCEWEN BS 082799 13-04  
MCFALL G 082735 13-17  
MCGEE EG 120820 13-03  
MCGEE PL 093332 13-13, 120820 13-03  
MCGINNIS NH 103629 13-14  
MCGLOTHLIN WH 072262 13-12  
MCGUIRE RJ 099120 13-15  
MCINDOO MV 087267 13-08  
MCINNES EJ 115887 13-17  
MCISAAC WM 082761 13-03, 086818 13-03,  
088639 13-03  
MCKENDALL RR 103204 13-15  
MCKINNEY GR 088624 13-06, 099649 13-04  
MCKINNEY WT 093694 13-04, 098290 13-03,  
108699 13-04  
MCCLAUGHLIN JL 079413 13-01  
MCLEOD MF 122374 13-09  
MCLEOD WR 122374 13-09  
MCMAHON EM 099827 13-03  
MCMILLAN DE 094255 13-04, 104809 13-04,  
104826 13-03  
MCMULLIN GP 105087 13-15  
MCNAIR DM 095539 13-10  
MEAD WB 082832 13-17  
MECHOUAM R 103707 13-01  
MEDANSKY RS 103630 13-13  
MEDEK A 106002 13-04  
MEDINA MA 085727 13-13, 118568 13-03  
MEDICOTT RW 115887 13-17  
MEDVECKY J 087189 13-15, 101309 13-15,  
105827 13-14, 112443 13-09  
MEDVEDEV IV 102711 13-17  
MEEK JL 082792 13-03, 092508 13-03  
MEIER E 097553 13-15  
MEINECKE RD 095364 13-04  
MEITES J 100220 13-03  
MELCHIOR JC 100844 13-11, 100845 13-11  
MELDRUM BS 109620 13-03  
MELGES FT 095925 13-14  
MELLO NK 087462 13-06, 096452 13-13  
MELLOR CS 103099 13-11  
MELTZER D 102196 13-04  
MELTZER H 108280 13-03  
MELTZER HL 104438 13-07  
MELTZER HY 108719 13-05  
MELTZER Y 106150 13-03  
MENDEL JR 093081 13-13  
MENDELS J 073248 13-14, 087469 13-09  
MENDELSON JH 087462 13-06, 096452 13-13  
MENDOZA LC 087032 13-13  
MENGE HG 102186 13-04  
MENNEAR JH 100221 13-03, 120469 13-03  
MENON MK 101541 13-03  
MERLIS S 086704 13-14, 107994 13-14  
MERLO AB 104577 13-04  
MERRITT JH 085727 13-13, 118568 13-03  
METCALF FU 104797 13-04  
METYS J 105839 13-02, 105841 13-03  
METYSOVA J 105824 13-02, 105838 13-04,  
105839 13-02, 105841 13-03  
METZE H 125867 13-13  
MEYER RE 100821 13-14  
MEYERSON BJ 123276 13-04  
MIALL P 109198 13-03  
MICHALEK H 086821 13-03  
MICHALSKA M 122946 13-11  
MICHNIEWICZ BM 108398 13-03  
MICKS DW 088503 13-15  
MIKES F 102733 13-03  
MIKHAYLOVA NM 113750 13-09  
MIKIKITS W 089049 13-03  
MIKSZTAL MW 100259 13-14  
MIKULKA P 078163 13-14  
MIKURIYA TH 089184 13-12  
MILES JE 111128 13-15  
MILLER FP 106492 13-03  
MILLER JT 082816 13-06  
MILLER KW 077869 13-03  
MILLER L 111052 13-04  
MILLER LG 088290 13-03  
MILLER LH 082516 13-13, 106761 13-14  
MILLER LL 121220 13-05  
MILLER RL 102635 13-03  
MILLIEZ P 089134 13-15  
MILNER G 101615 13-14, 103629 13-14, 105277  
13-15  
MILOSEVIC M 110493 13-04  
MILSTEIN V 121102 13-17  
MILTON AS 087358 13-03  
MINDE KK 101643 13-13  
MINEKA S 102540 13-04  
MINNER Z 087042 13-10  
MIRAS CJ 098557 13-03, 106486 13-03  
MIRAN SM 100821 13-14  
MISES R 100605 13-10  
MISKEL JJ 100829 13-17  
MISRA PS 100792 13-13  
MISSALA K 106428 13-03  
MISUREC J 101936 13-13, 102604 13-13, 112289  
13-09  
MITCHARD M 077906 13-05, 106423 13-03  
MITCHELL CL 086105 13-04, 094254 13-05  
MITCHELL E 096150 13-04  
MITCHELL-HEGGS N 100780 13-10  
MITKIEWICZ S 118127 13-08  
MITRA C 125411 13-03  
MITROFANOV VS 111131 13-05, 111703 13-03,  
113522 13-03  
MITZNEGG P 086819 13-03  
MIYA TS 100221 13-03, 120469 13-03  
MIYADERA T 114765 13-01  
MIJINKOVA M 106097 13-15  
MOCCETTI T 097553 13-15  
MOCK JE 104143 13-10  
MODESTIN J 098272 13-15  
MODIGH K 104431 13-04  
MOFFAT AC 087141 13-06  
MOGILINA NP 102668 13-13  
MOGILNICKA E 104575 13-03  
MOIR ATB 101764 13-05, 120412 13-03  
MOLCAN J 105826 13-08, 105923 13-08, 105925  
13-09, 105930 13-08  
MOLINOFF PB 092859 13-03  
MOLTZ H 095383 13-04  
MONACHON MA 125960 13-03  
MONIOT M 106005 13-10  
MONTAGU JD 082826 13-13  
MONTANARO N 078936 13-04, 100537 13-07  
MONTEL H 125959 13-13  
MONTGOMERY RB 104806 13-04  
MONTI JM 098662 13-07, 106394 13-04  
MONTI SA 112783 13-01  
MOORCROFT WH 106797 13-04  
MOORE DF 092514 13-09  
MOORE GW 111999 13-16  
MOORE JNP 095450 13-09  
MOORE JW 078527 13-04  
MOORE KC 107046 13-03  
MOORE KE 082757 13-04, 105410 13-03, 106152  
13-03, 107964 13-04, 112064 13-13  
MOORE LP 087268 13-15  
MORAH D 095622 13-11  
MORALES F 098662 13-07  
MORALISHVILI E 090765 13-15  
MORAN EC 108699 13-04  
MOREAU JJ 107421 13-14  
MOREL P 089189 13-15  
MORET A 119914 13-04  
MORGAN DW 093270 13-17  
MORGAN JP 120468 13-03  
MORGENSTERN G 099939 13-11, 111147 13-14  
MORI M 094791 13-01  
MORIYA R 105392 13-02  
MORKHOLDT J 123265 13-06  
MOROI K 104324 13-03  
MORRIS PA 086525 13-17  
MORRISON JM 099852 13-03  
MORSE DL 105078 13-04  
MORSE RM 102448 13-17  
MORSELLI PL 108395 13-03  
MORTILLARO M 124106 13-03, 125071 13-03  
MOSTOW N 092893 13-06  
MOTYLOVA E 105826 13-08, 105923 13-08  
MOULD GP 087364 13-13  
MRNA B 105924 13-08  
MUCHA H 104226 13-07  
MUCHER H 125921 13-14  
MUCHMORE JS 082720 13-03  
MUELLER AJ 088624 13-06  
MUELLER PS 096471 13-13  
MUENTER MD 107465 13-13  
MUGFORD RA 088571 13-04  
MULLER M 098297 13-04, 113567 13-03  
MULLER RU 112315 13-04  
MULLER-KUPPERS M 100562 13-11  
MULLER-WIELAND K 088231 13-13  
MULLIGAN AF 110156 13-17  
MUNCHEROVA L 087136 13-15  
MUNIZ CE 097549 13-09  
MURPHY D 088385 13-09, 092743 13-11, 095943  
13-13  
MURPHY DL 079064 13-09, 085448 13-09,  
092897 13-09, 093454 13-09  
MURPHY J 089329 13-15, 089349 13-15  
MURPHY JC 122536 13-03  
MURPHY KJ 086511 13-15

# Author Index

# Psychopharmacology Abstracts

MURRAY-LYON IM 111963 13-15  
MUSCETTOLA G 086812 13-03  
MUSKENS ETJM 106616 13-13  
MUSSINI E 101701 13-03, 102806 13-03, 107158 13-03  
MUSTY RE 086156 13-04

## N

NADLER RD 095385 13-04  
NAGANUMA R 126039 13-14  
NAGAWA Y 105390 13-02, 105392 13-02  
NAGY A 108717 13-03  
NAHUM LH 105485 13-14  
NAHUNEK K 087191 13-11, 101311 13-09, 104435 13-09, 105828 13-09, 105829 13-08, 105832 13-09, 105928 13-09  
NAIK SR 104804 13-03  
NAIR HR 086936 13-14  
NAIR V 092158 13-03, 099614 13-05  
NAKAJIMA R 105390 13-02, 105392 13-02  
NAKAMURA J 094254 13-05  
NAKANISHI H 102885 13-04  
NAKAO T 118969 13-10  
NAKAZAWA K 104765 13-03  
NAQUET R 086702 13-03, 109620 13-03  
NARANJO C 105535 13-07  
NARANJO ER 088201 13-15  
NARASIMHACHARI N 097447 13-13  
NARBETH J 104806 13-04  
NASH RF 088069 13-04  
NATHENSON G 101432 13-11  
NAVARRIO G 077933 13-13, 100217 13-05  
NAVATIL J 105908 13-14, 106002 13-04  
NAYLOR RJ 100566 13-03  
NEAL JM 079413 13-01  
NEATHERY MW 100048 13-04  
NEBLETT C 098894 13-14  
NEBUS EJ 101578 13-04  
NEFF NH 082862 13-06, 082879 13-06, 092508 13-03, 105950 13-03, 108792 13-03  
NEMIROVSKII GM 102669 13-08  
NESHEV G 113521 13-03  
NEUMEYER JL 111998 13-17  
NEVILLE DM 092377 13-03, 092898 13-06  
NEWMAN WH 078165 13-03  
NEWMARK CS 102937 13-16  
NG KY 105426 13-03, 106070 13-04  
NG L 111618 13-13  
NG LKY 085956 13-13  
NG SH 100133 13-13  
NGAI SH 122540 13-03  
NICHOLS DE 087062 13-02  
NICOL GC 100131 13-15  
NICOLL RA 092379 13-03  
NIEFORTH KA 087351 13-17  
NIELSEN E 123265 13-06  
NIEMEGERES CJE 121221 13-06  
NIKITIN AI 111129 13-05  
NIKKI P 103314 13-05  
NILSSON IM 098556 13-01, 123262 13-03  
NILSSON L 095999 13-03  
NISHIYAMA T 116383 13-15  
NISKAC M 112443 13-09  
NODIFF EA 094791 13-01  
NOEL GL 109042 13-13  
NOEL MB 082761 13-03, 082762 13-01  
NOGUERA R 109105 13-09  
NOMOF N 077933 13-13, 100417 13-13  
NORDENBERG A 077912 13-15  
NORDGREN L 103312 13-03  
NORDRUM LM 088285 13-03  
NORDSTROM EB 123276 13-04  
NORMAN MM 108268 13-17  
NORN S 086820 13-03, 108399 13-03, 123266 13-03  
NORRIS AS 089343 13-15  
NORRIS H 082861 13-13  
NORRIS RV 099658 13-13  
NORTH P 121796 13-13  
NOSE T 098303 13-03  
NOWELL NW 088571 13-04  
NOYES R 100317 13-09  
NUCIFORA TL 091281 13-02  
NUMAN M 095383 13-04  
NUNN PJ 102390 13-04  
NYBACK H 123281 13-03

O  
O'BRIEN CP 071597 13-11  
O'BRIEN J 111142 13-04  
O'BRIEN RA 082634 13-13  
O'CONNELL RA 089531 13-15  
O'DEA RF 122543 13-03  
O'DONNELL RD 078163 13-14  
O'DONNELL SR 122550 13-03  
O'GORMAN EC 100736 13-10  
O'GRADY CP 110156 13-17  
O'MALLEY K 082750 13-13  
O'REGAN JB 083393 13-09  
OATES JA 098750 13-13, 101703 13-03, 104571 13-13  
OATES RK 108799 13-15  
OELSZNER W 094258 13-03, 098295 13-04, 122047 13-03, 122048 13-03  
OEMUNO M 115899 13-13  
OESTERLE W 087002 13-17  
OETTINGER L 095459 13-14  
OGATA F 087462 13-06  
OGATA H 087462 13-06  
OGATA M 096452 13-13  
OGBURN BR 097549 13-09  
OGE V 093791 13-11  
OGURA C 118969 13-10  
OHISHI K 123047 13-13  
OHLSSON A 098556 13-01  
OHNESORGE FK 107512 13-12  
OHSAWA S 123050 13-10  
OKA T 082791 13-03  
OKONOGI T 116383 13-15  
OKSENKRUG GF 109920 13-02, 111294 13-03  
OKUMA T 118969 13-10  
OKUM R 077990 13-03  
OLDHAM AJ 115398 13-14  
OLESEN OV 100809 13-11  
OLIVER AP 112202 13-16, 125594 13-03  
OLIVEROS R 100539 13-10  
OLLEY JE 086899 13-03, 122542 13-03  
OLOFSSON K 098556 13-01  
OLSEN R 087270 13-14  
OLSON L 086808 13-03  
OLSSON SO 123287 13-03  
ORNELLAS M 102694 13-03  
ORRENIUS S 122576 13-03  
ORSINGER OA 078012 13-03, 104373 13-04  
ORTIZ A 088679 13-04  
OSBORN M 094122 13-17  
OSBORN RW 078130 13-16  
OSINSKI Z 087019 13-15  
OSMOND H 111962 13-12  
OSSENBERG FW 088231 13-13  
OSTROVSKAJA RU 082760 13-03  
OSTROVSKAYA RU 113480 13-03  
OSWALD I 092160 13-12, 099118 13-14, 110189 13-14  
OTA KY 099156 13-07  
OTSUKI S 111589 13-13  
OTT JE 101864 13-13  
OTT T 080632 13-03, 103945 13-04  
OTTOSSON J 104110 13-10  
OVERALL JE 077932 13-08, 088148 13-10, 100438 13-16, 103912 13-14, 108696 13-09  
OVERO KF 098615 13-03  
OVERSTREET DH 102094 13-04, 103461 13-04, 103949 13-04  
OWEN G 104638 13-09  
OWEN NV 099696 13-05  
OXENKRUG GF 106426 13-03  
OZEK M 104798 13-13

## P

PAATERO H 102194 13-14  
PACELTOVA L 105836 13-09  
PADJEN A 095366 13-03  
PADRUUT A 099032 13-08  
PAHNKE WN 089185 13-12, 116810 13-11  
PAINTER JC 089179 13-15  
PAKKENBERG H 085234 13-04, 104374 13-04  
PAL N 082827 13-03, 094253 13-05  
PALAIC D 074835 13-13, 107592 13-14  
PALAZZOADRIANO M 103653 13-03  
PALFAI T 102305 13-04  
PALMER GC 082864 13-03  
PALOTAS J 100132 13-13

PANHUYSEN LHM 093815 13-09  
PANISSET J 074835 13-13  
PANKSEPP J 086672 13-04  
PAOLINO RM 088681 13-04  
PAPADAKIS DP 098557 13-03  
PAPESCHI R 099648 13-03, 106909 13-03  
PAPLIYAN MY 113429 13-08  
PAPPAS BA 079066 13-04  
PARDO EG 124103 13-02  
PARE CMB 101434 13-10  
PARK LC 104143 13-10  
PARK S 077823 13-09  
PARKENBERG H 117681 13-03  
PARKER CW 107113 13-06  
PARKER JM 098634 13-03  
PARKER KD 100417 13-13  
PARKES DC 102102 13-03  
PARKES JD 098142 13-15, 111963 13-15  
PARKHOMETS PK 111765 13-03  
PARRY HJ 078803 13-17  
PARTINGTON MW 086993 13-11  
PARTYKA DA 098158 13-03  
PASHAYAN H 099761 13-15  
PASLEY JN 089016 13-03  
PASSANANTI GT 111618 13-13  
PASSANANTI T 100419 13-13  
PATEL AK 101990 13-16  
PATRISSE GA 079611 13-04  
PAULING L 099013 13-17  
PAULLEY JW 100854 13-11  
PAULSON GW 085692 13-15  
PAWLOWICZ A 087021 13-15  
PAYTE JT 086892 13-16  
PEARLMAN CA 102750 13-15  
PEARSON J 090662 13-15  
PEARSON JW 104366 13-11  
PECKNOLD JC 089350 13-15, 100260 13-07  
PEDERSON V 123275 13-04  
PEEKE HVS 104377 13-04  
PEELER DF 104797 13-04  
PEKANMÄKI L 101758 13-04  
PENROD WC 078448 13-04  
PERALES A 107592 13-14  
PEREIRA-OGAN JA 086521 13-08  
PEREL JM 088143 13-07, 092932 13-09  
PEREZ HC 097458 13-09  
PEREZ-CRUET J 086107 13-03  
PERGAMENT E 099614 13-05  
PERHACH JL 079430 13-03  
PERIER M 093702 13-09  
PERLEY JE 106425 13-03  
PERON-MAGNAN P 097797 13-08, 097798 13-11  
PERRIN RG 088973 13-04  
PERRY SW 108727 13-15  
PERSON DW 104136 13-04  
PERSSON G 101409 13-15, 101410 13-10  
PERSSON N 106429 13-13  
PERSSON T 101888 13-09, 103313 13-03  
PESCADOR R 118564 13-03  
PESKOFF RB 106954 13-11  
PESKAR B 088637 13-03  
PETEROVA E 105836 13-09  
PETERS DAV 099652 13-05  
PETERS H 103917 13-11  
PETERSON DW 107865 13-03, 109030 13-03  
PETERSON GR 079663 13-03  
PETRE-QUADRENS O 098880 13-14  
PFEIFFER CC 087487 13-10  
PHILLIPPEN N 087291 13-09  
PHILIPPI A 120718 13-03  
PHILLIPS GF 087118 13-06, 087142 13-16  
PHILLIPS RN 088625 13-05  
PHILLIS JW 104537 13-03  
PIARROUX M 105118 13-03  
PIECHOCKI T 108032 13-04  
PIENKOWSKA T 118205 13-08  
PIEPER WA 120966 13-04  
PIETRUSZEWSKA I 122945 13-17  
PIHL RO 094921 13-06  
PIKE DJ 104830 13-09  
PILIPENKO IA 107726 13-03  
PILKONEN O 088540 13-13  
PILLARD RC 100821 13-14  
PINARD G 077430 13-08  
PINCHARD A 096113 13-07  
PINDER RM 122545 13-04  
PINSKY C 104537 13-03  
PITT CG 082707 13-03  
PITTS FN 095007 13-17

PLACIDI G 099031 13-10  
 PLATMAN SR 102592 13-09  
 PLESHKO AM 102828 13-17  
 PLESS JE 104378 13-14  
 PLEUVRY BJ 106427 13-03  
 PLOTNIKIN S 092573 13-11  
 PLOTNIKOFF M 111420 13-04  
 PLZAK M 086076 13-14, 101505 13-10, 105836 13-09  
 POCCHIARI F 086821 13-03  
 PODOBNIKAR IG 096019 13-10  
 POGADY J 087136 13-15  
 POHLE W 080632 13-03, 086805 13-03  
 POKORNY AD 088148 13-10  
 POLACKOVA J 105830 13-09  
 POLAK L 105826 13-08  
 POLAK P 104086 13-08  
 POLATIN P 102105 13-09  
 POLLINGER W 074815 13-07  
 POLLARD H 107194 13-03  
 POLLITT J 100791 13-10  
 POLLOCK M 095622 13-11  
 POLVAN M 088153 13-07, 107755 13-08  
 POMEROY A 119016 13-03  
 POPA L 126160 13-03, 126160 13-03  
 POPOVA EN 111137 13-03  
 PORATH G 103707 13-01  
 PORFIRYEV RP 111131 13-05, 111293 13-03  
 POSOLT RD 086771 13-04  
 PORTER CC 101702 13-03  
 POSCHEL BPH 114433 13-06  
 POSTMA E 120828 13-13  
 POTTERFIELD JR 108521 13-13  
 POTTS WJ 098159 13-04  
 POWELL BJ 078250 13-02  
 POZDNIKOVSV 102830 13-17  
 POZOS RS 122537 13-03  
 PRADHAN SN 082722 13-04  
 PRAGG HMV 103955 13-13  
 PRANGE AJ 083161 13-03, 098290 13-03  
 PREECE J 106063 13-11  
 PRESTHUS J 117683 13-07  
 PREWITT E 100047 13-09  
 PRICHARD BNC 120418 13-13  
 PRICHARD JW 099108 13-03  
 PRIEN RF 069197 13-08, 106066 13-08  
 PRINCIPI K 125164 13-04  
 PRIOR PF 113999 13-15  
 PRITCHARD HD 099852 13-03  
 PRIVAT Y 121753 13-07  
 PROAKIS AG 100221 13-03  
 PROTIVA M 105824 13-02  
 PRUZANSKY D 099761 13-15  
 PRUZANSKY S 099761 13-15  
 PRZUNTEK H 102718 13-03  
 PUBLIATTI C 118564 13-03  
 PUJOL J 099261 13-03  
 PURCELL AT 104806 13-04  
 PURGYI P 125991 13-09  
 PURI S 111142 13-04  
 PYKHAREVA ND 102669 13-08

## Q

QUADRI SK 100220 13-03  
 QUARTERMAIN D 082799 13-04  
 QUINTEON EE 105075 13-04  
 QUIRK D 082735 13-17

## R

RABIN AG 111816 13-03  
 RADIL-WEISS T 104375 13-03, 104376 13-03, 104429 13-04  
 RADMAYR E 086519 13-09  
 RADOUCO-THOMAS S 117580 13-03, 122549 13-03  
 RADWAN AG 089442 13-03  
 RAHALL DK 098731 13-14  
 RAINEY HB 111722 13-14  
 RAJA R 089039 13-16  
 RAJECKI DW 079760 13-14  
 RAMADIA F 115899 13-13  
 RAMANATHAN S 105014 13-03  
 RAMKHEN VF 113748 13-14  
 RAMSEY WH 090662 13-15  
 RANA MW 104535 13-03  
 RAND MJ 119016 13-03  
 RANDIC M 095366 13-03

RANDRUP A 104374 13-04  
 RANDT CT 082799 13-04  
 RAPER C 077908 13-02  
 RAPOPORT IA 113434 13-03  
 RAPOPORT J 106308 13-11  
 RAPP MS 102534 13-15  
 RAPPAPORT M 106918 13-08  
 RASHKIS S 092573 13-11  
 RASIN MS 111704 13-03  
 RASKOVA H 105998 13-02  
 RATCLIFFE F 106151 13-03  
 RATING D 123267 13-03, 123284 13-03  
 RATNER A 125330 13-03  
 RATTNER JC 101578 13-04  
 RATTRAY JF 079063 13-03  
 RAUSCHER GE 088284 13-03, 088558 13-03  
 RAVN J 115395 13-13  
 RAYEVSKIY KS 111137 13-03  
 READING HW 088510 13-13, 096013 13-03  
 REDMOND DE 085419 13-04, 101934 13-04  
 REED DJ 101704 13-03  
 REES WL 100538 13-10, 104830 13-09, 105890 13-11  
 REHAULT MC 107194 13-03  
 REIGLE TG 089098 13-03  
 REILLY E 104441 13-13  
 REINIS S 104810 13-04  
 REISBY N 106143 13-14  
 REJEK J 118205 13-08  
 REMMELTS M 088730 13-04  
 REMMER H 117457 13-15  
 REMR J 105926 13-08  
 REVES JG 078165 13-03  
 REVUELTA A 089048 13-03  
 REWERSKI W 108032 13-04  
 REYNOLDS EH 093822 13-15, 106063 13-11  
 REYNOLDS EV 088071 13-04  
 RHODES RE 108398 13-03  
 RIAL WY 103626 13-10  
 RIBAUDEAU-DUMAS JL 101377 13-11  
 RICHARDS KC 125427 13-15  
 RICHARDSON EL 097914 13-04  
 RICHARDSON JS 086156 13-04, 106846 13-13  
 RICHTER RW 090662 13-15  
 RICKART A 087032 13-13  
 RICKELS K 079432 13-10, 086521 13-08, 092162 13-07, 092456 13-10, 100208 13-10, 102213 13-10, 103626 13-10, 104143 13-10, 121476 13-11  
 RIDGE JW 108287 13-03  
 RIDLEY CM 087150 13-15  
 RIESTERER L 118201 13-05  
 RIJNTJES NV 106616 13-13  
 RIKOVSKY S 105924 13-08  
 RIHLAND B 082634 13-13  
 RINGDAHL IC 100317 13-09  
 RISSANEN A 103314 13-05  
 RITTER RM 086936 13-14  
 RITVO ER 092573 13-11  
 RITZEL G 125703 13-11  
 RIVERA-CALIMLIM L 120468 13-03  
 RIVERS PC 090725 13-11  
 RIVOALAN Y 089189 13-15  
 RIZVI FA 085460 13-15  
 ROBBINS ES 092717 13-14  
 ROBERFROID M 108286 13-03  
 ROBERTS DJ 107193 13-03  
 ROBERTS E 077725 13-03, 082860 13-04  
 ROBERTS MHT 087359 13-03, 108796 13-03  
 ROBERTSON MI 104011 13-03  
 ROBICHAUD RC 106523 13-04  
 ROBINS E 095945 13-09  
 ROBINSON RG 095622 13-11  
 ROBINSON SM 100204 13-15, 100216 13-03  
 ROBISON GA 082864 13-03  
 ROBUSTELLI F 104796 13-04  
 ROCKLIFF BW 078939 13-06  
 RODDA BE 104362 13-12  
 RODGER JR 099681 13-13  
 RODIER WI 086883 13-14  
 RODJER S 099851 13-13  
 RODOVA A 086447 13-05, 087191 13-11, 101311 13-09, 105828 13-09, 105829 13-08, 105832 13-09, 105928 13-09  
 RODRIGUEZ R 124103 13-02  
 ROFFMAN M 107943 13-04  
 ROGER J 093821 13-13  
 ROGERS CG 102805 13-03  
 ROGERS HJ 088641 13-03

ROGERS KJ 109197 13-03  
 ROGERS MP 101061 13-15  
 ROGERSON R 100790 13-10  
 ROHMER F 121796 13-13  
 ROLDAN E 104375 13-03, 104376 13-03  
 ROMMELSPACHER H 119553 13-03  
 RONDOT P 101377 13-11  
 ROOS B 104140 13-03  
 ROSAZZA JP 100171 13-01  
 ROSE SD 105117 13-16  
 ROSECRANS J 099646 13-04, 108732 13-04  
 ROSELL S 099647 13-03  
 ROSEN B 092770 13-08  
 ROSENBAUM H 102880 13-15  
 ROSENBAUM JL 089039 13-16  
 ROSENBERG CM 090725 13-11  
 ROSENFELD H 103626 13-10  
 ROSENFELD R 082707 13-03  
 ROSENKRANTZ H 093082 13-05  
 ROSHCHINA LF 111133 13-04, 113518 13-04  
 ROSIC N 102097 13-04, 110493 13-04  
 ROSLIKOV VS 110120 13-11  
 ROSNER BS 111343 13-13, 111344 13-13, 111839 13-14  
 ROSS JJ 086578 13-03, 086580 13-03  
 ROSS N 106394 13-04  
 ROSS S 111207 13-14  
 ROSSI GV 122541 13-03  
 ROTERS G 088693 13-11  
 ROTH B 101819 13-14  
 ROTH J 092377 13-03, 092898 13-06  
 ROTH LJ 082880 13-03, 098956 13-03, 105706 13-03  
 ROTH RH 086813 13-03  
 ROTHSCHILD CJ 111128 13-15  
 ROUTHENBERG A 075046 13-04  
 ROUXIOUX JM 100406 13-15  
 ROWLES SG 087061 13-03  
 ROWLEY VN 102824 13-04, 104173 13-04  
 ROY AN 088629 13-15  
 ROZBERG G 096114 13-15  
 RUBIN E 089191 13-13, 100792 13-13  
 RUBINO FA 125574 13-14  
 RUBINSTEIN EH 086902 13-04  
 RUDNICK HD 078131 13-11  
 RUEDY J 101174 13-15  
 RUELIUS HW 077933 13-13  
 RUFFIN WC 103629 13-14  
 RUGH JD 088575 13-06  
 RUIZ-MAZA F 082830 13-15  
 RUMBAUGH DM 120966 13-04  
 RUNOVA MF 111131 13-05  
 RUSSELL HT 087061 13-03  
 RUSSELL MAH 091779 13-14  
 RUSSELL RW 102094 13-04, 103461 13-04, 103949 13-04  
 RUTLEDGE CO 077726 13-03  
 RUZHANSKII MI 102657 13-08, 102715 13-17  
 RUZICKA S 105835 13-11  
 RYBACK RS 099922 13-15, 103188 13-15  
 RYDER BL 086521 13-08  
 RYG M 103311 13-03  
 RYLSKI M 108032 13-04  
 RYO Y 123046 13-14  
 RYSANEK K 106095 13-13, 106097 13-15

## S

SAARMA J 086571 13-07  
 SAARMA M 086571 13-07  
 SAARNIVAARA L 087116 13-03, 106847 13-03  
 SABLONSKY L 100208 13-10  
 SADOFF RL 099682 13-15  
 SAEGERT S 097960 13-14  
 SAKKO S 105827 13-14  
 SAFRATOVA V 105917 13-14  
 SAID G 101377 13-11  
 SAITO H 102930 13-03  
 SAJI Y 105392 13-02  
 SAKAI Y 125324 13-03, 125327 13-03  
 SAKALIS G 087364 13-13  
 SALDANHA VF 098302 13-13  
 SALLINA LP 109947 13-14  
 SALETU B 087001 13-13, 103325 13-07, 105008 13-08, 108701 13-08, 115401 13-08, 125568 13-08  
 SALETU M 087001 13-13, 105008 13-08, 125568 13-08  
 SALKIND MR 100538 13-10

# Author Index

SALLER C 101935 13-05  
SALOMON MI 100206 13-15  
SAMANIN R 125653 13-03  
SAMED MMA 118566 13-03  
SAMOCHOWIEC L 100334 13-03  
SAMOILOV NN 107726 13-03  
SAMSONOVA ML 109920 13-02  
SAMUEL D 088576 13-06  
SAMUELS C 109622 13-03  
SANCHEZ L 101564 13-10  
SANDBERG F 098556 13-01, 123262 13-03  
SANDERS-BUSH E 077869 13-03, 077923 13-03, 103648 13-03  
SANGHVI I 104142 13-04, 107864 13-05, 120964 13-04  
SANSOY OM 088629 13-15  
SANTAGOSTINO G 105708 13-03  
SANTINI V 120467 13-03  
SAPIRA JD 095003 13-13  
SARAF K 099818 13-11  
SARATIKOV AS 107726 13-03  
SARGANT W 085332 13-17  
SARGENT T 105535 13-07  
SATINDER KP 078453 13-04  
SATLOFF A 089818 13-15  
SATO H 099614 13-05  
SATO M 111589 13-13  
SATO PT 079413 13-01  
SATO S 103917 13-11  
SATO T 123050 13-10  
SATOH M 082788 13-03, 125358 13-03  
SATOH T 104324 13-03  
SAUCIN M 087366 13-01  
SAUT G 090792 13-14  
SAVAGE C 116810 13-11  
SAVAGE PPE 095621 13-15  
SAWADA H 117456 13-16  
SAX DS 123702 13-15  
SAXENA BM 078942 13-11, 098507 13-11, 098601 13-13, 105673 13-08  
SAXENA RC 104807 13-06  
SAYERS A 108797 13-03  
SCHAEPII UH 093082 13-05  
SCHALLEK W 103649 13-03  
SCHALLY AV 106761 13-14  
SCHANBERG SM 099827 13-03  
SCHARFETTER C 099032 13-08  
SCHATZ RA 106920 13-03  
SCHECHTER MD 088584 13-04, 099646 13-04, 108732 13-04  
SCHEEL-KRUGER J 079069 13-04  
SCHENKER S 089284 13-03  
SCHERRER H 094970 13-14  
SCHICOR A 092573 13-11  
SCHIEFFER I 123602 13-15  
SCHIELE BC 078944 13-08, 095532 13-17  
SCHILDKRAUT J 086251 13-03, 098921 13-15, 104139 13-03, 114514 13-04  
SCHILDKRAUT MD 110192 13-04  
SCHLESINGER K 086806 13-03, 098290 13-03  
SCHLOSSER W 106148 13-03  
SCHMALTZ LW 095382 13-04  
SCHMIDT KM 085478 13-03  
SCHMITT M 080632 13-03  
SCHNEIDER B 103626 13-10  
SCHNEIDER CW 091225 13-04  
SCHNEIDER M 100604 13-11  
SCHNIERLE F 094791 13-01  
SCHNITZER R 108525 13-17  
SCHOLTMEYER H 119724 13-03  
SCHOLZ N 079431 13-14  
SCHOOALAR JC 106147 13-03  
SCHOOALER NR 095221 13-08  
SCHOU J 123265 13-06  
SCHOU M 086927 13-15, 087000 13-13, 088690 13-09, 089866 13-13  
SCHREIBER EC 086578 13-03, 086580 13-03  
SCHROLD J 103953 13-04, 123287 13-03  
SCHUBERTH J 123283 13-03  
SCHUCKIT M 095945 13-09  
SCHULTKA H 088693 13-11  
SCHULZ E 098562 13-11  
SCHULZE G 119553 13-03  
SCHUMANN HJ 125959 13-03  
SCHUSSLER K 107716 13-13  
SCHUSTER CR 082719 13-04, 111146 13-04  
SCHUT T 103955 13-13, 111694 13-09  
SCHWAB RS 099922 13-15  
SCHWAMBERGER BV 105040 13-17

SCHWARTZ D 102880 13-15  
SCHWARTZ J 107194 13-03  
SCHWARTZ JH 102512 13-03  
SCHWARTZ MA 120828 13-13  
SCHWARZ CJ 102611 13-13  
SCHWARZ GA 071597 13-11  
SCHWEIKART W 078943 13-10  
SCHWIEGER AC 106483 13-15  
SCHWINGENHEUER J 126007 13-11  
SCOTT DF 113999 13-15  
SCOTT J 099063 13-14  
SCOTTI G 102751 13-11  
SCOTTO J 090792 13-14  
SCOUTEN CW 104457 13-04  
SCOZ R 100537 13-07  
SCRIABINE A 101702 13-03  
SEBESTYEN K 100132 13-13  
SECUNDA SK 087469 13-09  
SEDIVEC V 105836 13-09  
SEDVALL G 123281 13-03  
SEEDS NW 100103 13-03  
SEEFF LB 118569 13-05  
SEEGAL RF 106694 13-04  
SEEMAN P 108396 13-03  
SEGAL DS 089015 13-04, 101718 13-04, 102095 13-04  
SEGHAATCHIAN MJ 119698 13-03  
SEIDEN LS 088577 13-03, 088685 13-03, 106689 13-04  
SEIDENBERG R 085597 13-17  
SEILER N 098685 13-03, 102734 13-03  
SEKERKE HJ 112538 13-07  
SELDROP J 111658 13-11  
SELIGMAN MEP 102540 13-04  
SELLINGER OZ 086285 13-03  
SELYE H 101542 13-03  
SEMENOV SF 102711 13-17  
SENAULT B 104430 13-04  
SENEY EC 091592 13-07  
SENINI G 096309 13-08  
SERAFETINIDES EA 098613 13-08, 098731 13-14, 121259 13-08  
SERRA MT 105405 13-06  
SESTANI K 102735 13-13  
SETHY VH 104804 13-03  
SEWELL WR 078452 13-04  
SHADER RI 088142 13-17, 107546 13-15, 107547 13-07, 115619 13-13, 115620 13-10  
SHAGOURY RA 111998 13-17  
SHAH NS 106527 13-03, 107959 13-03, 120471 13-03  
SHALLICE SA 108794 13-03  
SHALLICE SAPD 074843 13-03  
SHAMSI MA 099650 13-03, 120929 13-03  
SHAMSI SJ 089080 13-15  
SHAND DG 101703 13-03  
SHANMUGANATHAN N 102349 13-07  
SHANOR SP 089179 13-15, 098634 13-03  
SHANTHAKUMARI G 098306 13-04  
SHAPIRO AK 104558 13-17  
SHAPIRO B 101763 13-05  
SHAPIRO DM 107630 13-16  
SHAPIRO E 104558 13-17  
SHAPIRO LM 100821 13-14  
SHAPIRO T 074814 13-08, 095924 13-14, 101536 13-11  
SHARMA HL 094791 13-01  
SHASKAN EG 077855 13-03  
SHAW WV 108522 13-03  
SHECHUNKOV YL 111135 13-04, 113523 13-03  
SHEARD MH 095220 13-09  
SHEEHAN P 100938 13-04  
SHEIN HM 088702 13-03  
SHELLENBERGER MK 117510 13-06  
SHELTON J 088148 13-10  
SHEPPARD C 086704 13-14  
SHERMAN D 100780 13-10  
SHERMAN WB 074239 13-15  
SHERTER C 088986 13-15  
SHETH UK 104804 13-03  
SHETTY T 106862 13-11  
SHIEU Y 092976 13-04  
SHIBATA S 105391 13-03  
SHIELDS LM 088629 13-15  
SHIHAB AA 077906 13-05, 106423 13-03  
SHILLITO EE 087360 13-04  
SHIMAN R 092896 13-01  
SHIMIZU K 100100 13-03  
SHINOHARA K 117456 13-16

# Psychopharmacology Abstracts

SHIOMI H 098304 13-03  
SHIRALI S 088557 13-03  
SHMAVONIAN BM 082516 13-13  
SHOPSIN B 102535 13-12, 105084 13-15, 105885 13-08, 107864 13-05  
SHORE PA 086820 13-03, 105704 13-03, 106399 13-03, 120466 13-03, 123266 13-03  
SHROFF P 104365 13-14  
SHULGIN AT 105535 13-07  
SHUSTER L 079663 13-03  
SHVEDOV VI 111290 13-03  
SIDELL FR 104378 13-14  
SIEGEL M 077990 13-03  
SIEGEL P 098208 13-06  
SIEGEL RK 105079 13-04  
SIEGFRIED J 125996 13-11  
SIGG EB 107963 13-03  
SIGGELKOW H 089150 13-11  
SIGGINS GR 082862 13-06, 125594 13-03  
SILBERGELD S 103948 13-03  
SILVA MRE 120716 13-03  
SILVERMAN A 077990 13-03  
SILVERMAN J 095943 13-13, 106918 13-08  
SIMIC S 087117 13-01  
SIMMERMAN SJ 079532 13-14  
SIMMONDS FA 108283 13-03  
SIMMONDS MA 082721 13-03  
SIMON P 091558 13-02, 100214 13-06, 105118 13-03  
SIMONE SA 079611 13-04  
SIMONSEN DG 082860 13-04  
SIMPSON B 073309 13-04  
SIMPSON GM 077913 13-08, 087033 13-08, 095536 13-08, 099735 13-08, 117023 13-11  
SIMPSON LL 086898 13-03  
SIMS ACPL 103099 13-11  
SINDELAROVA M 101939 13-14  
SINGER G 104806 13-04, 120964 13-04  
SINGER K 101989 13-11, 108487 13-11  
SINGH AN 103326 13-07  
SINGH B 102391 13-03  
SINGH JM 088732 13-03  
SINGHAL RL 099652 13-05  
SINHA JN 099650 13-03  
SIRLIN JL 087125 13-06  
SIROKA A 105915 13-14, 105916 13-14, 105918 13-14, 105995 13-14, 105997 13-14  
SIYADJIAN J 086858 13-04  
SJCZYNSKI J 087023 13-09  
SJOERDSMA A 098149 13-14, 099063 13-14  
SJOQVIST F 077931 13-16, 105536 13-13, 112297 13-13, 122576 13-03, 122578 13-13, 122579 13-13  
SJOSTROM R 104570 13-13  
SKALA J 105917 13-14  
SKARYSZEWSKA-SAWICKA J 118130 13-09, 118208 13-09  
SKINNER A 089049 13-03  
SKINNER GC 105117 13-16  
SKOU M 103320 13-09  
SLANSKA J 105917 13-14  
SLEDGE K 106523 13-04  
SLETTEN JW 078130 13-16  
SLOAN JW 095003 13-13  
SLOVIS TL 101864 13-13  
SLOZHENIKIN AI 111979 13-08  
SLYE ES 104367 13-14  
SMALL IF 092514 13-09, 097458 13-09, 121102 13-17  
SMALL JG 092514 13-09, 097458 13-09, 121102 13-17  
SMALLDON KW 115897 13-06  
SMALJAL V 098296 13-05  
SMIT EM 101768 13-03  
SMITH AA 105406 13-03  
SMITH BT 101560 13-13  
SMITH DE 071568 13-16, 111517 13-14  
SMITH EJ 102916 13-15  
SMITH EKM 082831 13-15  
SMITH JW 106132 13-11  
SMITH RR 105119 13-14  
SMITH RV 087062 13-02  
SMITH SE 107660 13-14  
SMOAKE JA 091102 13-06  
SMOAKLER HH 125650 13-03  
SMULEVICH AB 113750 13-09  
SMULEVICH RL 107728 13-13  
SMULEVICH AB 087034 13-09  
SNEGIEV EA 107723 13-03

- SNOW LH 115196 13-17  
 SNYDER DR 106145 13-04  
 SNYDER F 090929 13-14, 093258 13-14, 098149 13-14, 099063 13-14, 103248 13-14  
 SNYDER SH 071566 13-12, 077853 13-03, 078017 13-03, 078134 13-04, 078958 13-12, 093696 13-04, 093697 13-14  
 SOBOTKA TJ 098850 13-04  
 SODE J 104427 13-13  
 SODERSTEN P 104431 13-04, 125165 13-04  
 SODETZ FJ 101935 13-05  
 SOFIA RD 077902 13-03  
 SOHOLA A 124105 13-03  
 SOKOLA A 125163 13-03  
 SOKOLIK Z 109010 13-12  
 SOLLAI G 121457 13-07  
 SOLOMON GF 085478 13-03  
 SOLOMON MD 121258 13-03  
 SOLOMON PR 105078 13-04  
 SOLTYS JJ 102187 13-14  
 SOMERS K 101990 13-16  
 SONNENSCHNEIN RR 086902 13-04  
 SOSNIER M 125422 13-05  
 SOTSEVICH GN 102797 13-17  
 SOUCEK K 086076 13-14, 101505 13-10  
 SOULAIRAC A 093701 13-11  
 SOURCES TL 099648 13-03, 106428 13-03  
 SOUTHGATE PJ 105413 13-04, 120410 13-03  
 SPAIDE J 097447 13-13  
 SPANER FE 096017 13-08  
 SPANKOVA H 106097 13-15  
 SPANO PF 082879 13-06, 099794 13-04, 104010 13-03  
 SPARBER SB 109030 13-03, 125255 13-03  
 SPARF B 123283 13-03, 123293 13-03  
 SPARLING DL 078449 13-04, 097414 13-14  
 SPEARS GFS 095622 13-11  
 SPECTOR RG 089049 13-03  
 SPECTOR S 107161 13-03  
 SPEHLMANN R 106065 13-03, 125630 13-13  
 SPEIGHTMT 110845 13-11  
 SPENADER WF 105040 13-17  
 SPENCER PSJ 106422 13-03, 108797 13-03, 110188 13-03  
 SPENCER RP 088725 13-13  
 SPILKEN AZ 108268 13-17  
 SPINNLER H 102751 13-11  
 SPISLA B 122946 13-11  
 SPITZY KH 125866 13-17  
 SPOHN HE 085015 13-08  
 SPRIGGS TLB 120409 13-03  
 SPRING GK 103627 13-09  
 SPRITES MA 102695 13-03  
 SQUIRE LR 089015 13-04, 097739 13-04  
 SQUIRE RF 123272 13-03  
 SQUIRES RF 103953 13-04, 123264 13-03  
 ST-LAURENT JS 100507 13-04  
 STABROVSKIY YM 113523 13-03  
 STACEY PD 086156 13-04, 106846 13-13  
 STAEHELIN M 102696 13-03  
 STANCER HC 107453 13-15  
 STANLEY HM 108287 13-03  
 STANTON JP 078452 13-04  
 STARKE K 125959 13-03  
 STEIN DG 120961 13-03  
 STEIN L 077680 13-04, 088491 13-04  
 STEINBERG GG 100813 13-14  
 STEINBERG H 104436 13-04  
 STEINBERG HR 100813 13-14  
 STEINER AL 107113 13-06  
 STEINER H 098272 13-15  
 STEINER S 098483 13-04  
 STEPANSKY W 102213 13-10  
 STEPHENSON JD 109194 13-03  
 STERLIN C 077431 13-14, 100539 13-10, 101959 13-03  
 STERN S 086107 13-03  
 STERN WC 106492 13-03  
 STERNBERG MS 078957 13-17  
 STEVENS HM 115898 13-06  
 STEVENS JB 103633 13-15  
 STEVENSON IH 087362 13-06  
 STEWART MJ 107597 13-17  
 STIKA L 106098 13-17  
 STILLE G 099027 13-17  
 STOCKS JG 108014 13-15  
 STOKELY S 098483 13-04  
 STOKES JW 087469 13-09  
 STOLERMAN IP 096150 13-04, 104436 13-04, 105012 13-04, 125249 13-06  
 STOLK JM 111144 13-04  
 STOLMAN A 098636 13-13  
 STOLMAN S 108615 13-03  
 STOLTE LAM 102288 13-13  
 STOLTZFUS NW 105119 13-14  
 STONE CA 101702 13-03  
 STONIER PD 104573 13-04  
 STORM CB 092896 13-01  
 STORY RJ 102868 13-04  
 STOTSKY BA 096021 13-11  
 STRADA SJ 086814 13-03, 099967 13-03, 106059 13-03  
 STRASSMAN HD 098733 13-14  
 STRATTEN WP 107121 13-03  
 STRAUSS S 119553 13-03, 123284 13-03  
 STREET DM 107193 13-03  
 STRETCH R 089060 13-04, 102189 13-04  
 STROCCHI P 078936 13-04  
 STRZYZEWSKI W 089300 13-08, 089303 13-08  
 STUNTOFT A 123265 13-06  
 STURMAN G 089326 13-03  
 SUBBOTIN VF 107726 13-03  
 SUGERMAN AA 098603 13-06, 100259 13-14, 103327 13-07, 117024 13-08  
 SUGRUE MF 120466 13-03  
 SULESTROWSKA H 122939 13-10  
 SULLIVAN JL 101718 13-04  
 SULMAN FG 105010 13-03, 106146 13-03  
 SULSER F 077923 13-03, 082864 13-03, 086814 13-03  
 SUMAN A 098982 13-08  
 SUMMERFIELD A 086771 13-04  
 SUMMERS RJ 120413 13-03  
 SUNDWALL A 123283 13-03  
 SUOMI SJ 093694 13-04, 108699 13-04  
 SUPERSTINE E 106146 13-03  
 SUSTEN AS 120469 13-03  
 SUTTER E 098894 13-14  
 SUTTER JM 090792 13-14  
 SUZUKI Y 116154 13-03, 116383 13-15  
 SVANBORG A 099851 13-13  
 SVED S 107592 13-14  
 SVENSSON U 100170 13-01  
 SVESTKA J 086647 13-05, 087191 13-11, 101311 13-09, 101939 13-14, 105828 13-09, 105829 13-08, 105832 13-09, 105928 13-09  
 SWANI M 109105 13-09  
 SWEARINGEN C 079234 13-14  
 SWENSON J 089002 13-09  
 SWINYARD EA 107944 13-03  
 SWITALSKI RW 069197 13-08  
 SYBIRSKA H 089151 13-15  
 SYKES DH 101643 13-11  
 SZABADI E 087359 13-03, 108796 13-03  
 SZAFRANOWA H 119689 13-05  
 SZCZUREK Z 125422 13-03  
 SZE PY 082756 13-03, 088284 13-03, 088558 13-03  
 SZELENBERGER W 122945 13-17  
 SZLYKOWICZ JK 122939 13-10, 122951 13-11  
 SZMID J 110474 13-07  
 SZMURLO B 118130 13-09  
 SZYDLIK H 118209 13-09
- T**
- TABER RI 125247 13-04  
 TABUSHI K 097447 13-13  
 TACHIKAWA R 114765 13-01  
 TAGGART J 106136 13-13  
 TAGLIAMONTE A 086107 13-03, 104010 13-03  
 TAGLIAMONTE P 086107 13-03, 104010 13-03  
 TAKAC M 086073 13-13  
 TAKAGI H 082788 13-03, 098304 13-03, 114765 13-01, 116385 13-02, 125358 13-03  
 TAKAGI K 120930 13-03  
 TAKANO K 100100 13-03  
 TAKE Y 105392 13-02  
 TAKEDA T 123050 13-10  
 TAKEMORI AE 122543 13-03  
 TAKESUE H 098305 13-03  
 TALBOT NB 118690 13-14  
 TAMAYO L 104328 13-03  
 TAMURA C 114765 13-01  
 TAN T 079234 13-14  
 TANASE H 116154 13-03  
 TANG AH 110185 13-04  
 TANGHE A 087239 13-15, 102577 13-07  
 TANIMUKAI H 123049 13-10  
 TANNHAUSER M 107944 13-03  
 TANSEY LW 082762 13-01, 086818 13-03  
 TARSY D 123702 13-15  
 TASKA RJ 106147 13-03  
 TASSINARI CA 098321 13-13  
 TATUM P 086936 13-14  
 TAUSSIGOVA D 105927 13-08  
 TAYLOR KM 078017 13-03, 078134 13-04  
 TAYLOR M 110191 13-04  
 TAYLOR MA 079314 13-17  
 TAYLOR RM 104438 13-07  
 TEC L 085408 13-15  
 TEITELBAUM DT 101864 13-13  
 TEMKOV I 109885 13-11  
 TEOK PC 120418 13-13  
 TERADA A 114765 13-01  
 TERAQ A 119724 13-03  
 TERMINI BA 089849 13-11  
 TERZI GF 114476 13-11  
 TESCHENDORF HJ 123278 13-03  
 TESTINO L 082707 13-03  
 TETREAULT L 074835 13-13, 077430 13-08, 105674 13-08  
 TEWFIK GI 088488 13-14  
 THAL L 089050 13-03  
 THEODORE J 078163 13-14  
 THETFORD PE 085015 13-08  
 THIEL E 089067 13-09  
 THIERRY AM 082825 13-03  
 THOA NB 082784 13-03, 092689 13-03, 106070 13-04  
 THOMAS BH 122551 13-03  
 THOMAS EL 104368 13-13  
 THOMAS HBG 077704 13-14  
 THOMAS J 103649 13-03  
 THOMAS RK 088582 13-04  
 THOMPSON GR 093082 13-05  
 THOMPSON SI 125503 13-15  
 THOMPSON T 101740 13-04  
 THOMPSON W 107885 13-03  
 THOMSEN K 087000 13-13  
 THORN J 100845 13-11  
 THORNBURG JE 106152 13-03  
 THURLOW HJ 102589 13-17  
 TIKAL K 106093 13-03, 106096 13-03  
 TILICH G 087032 13-13  
 TILSON HA 125255 13-03  
 TINKLEBERG JR 099225 13-14, 103172 13-17  
 TINKING DC 089818 13-15  
 TIJSE J 125503 13-15  
 TIJO J 088626 13-03  
 TIJOE S 101847 13-03  
 TODRICK A 086529 13-13  
 TOLL N 109399 13-08  
 TONG D 100495 13-15  
 TONGE RE 108799 13-15  
 TONGE SR 077892 13-03, 104790 13-03, 105403 13-03  
 TORCHIANA ML 101702 13-03  
 TORECI K 104798 13-13  
 TORRES DM 105117 13-16  
 TOSELAND PA 122552 13-13  
 TRAFON CL 085333 13-04  
 TRAN N 100598 13-14  
 TRAPP WG 119724 13-03  
 TRAYLOR TD 088706 13-03  
 TRENCH HM 098662 13-07  
 TRENHOLM JL 122551 13-03  
 TREUTING JJ 078162 13-16, 089180 13-15  
 TROSHINSKY C 100813 13-14  
 TROSKO JE 120470 13-13  
 TRUITT EB 107886 13-15  
 TRZECIAK H 124105 13-03, 125163 13-03  
 TRZECIAKOWA O 122946 13-11  
 TSENG T 089285 13-03  
 TSUANG M 096021 13-11  
 TSUCHIE F 125326 13-03  
 TU JB 086993 13-11  
 TUCK D 105536 13-13, 112297 13-13  
 TUNEVMOV 102829 13-15  
 TUOMISTO J 102194 13-14  
 TURCEK M 087136 13-15  
 TUREK I 099156 13-07  
 TURK RF 088583 13-01, 088625 13-05  
 TURKIEWICZ R 118662 13-15  
 TURNBULL MJ 087362 13-06

# Author Index

TURNER P 089325 13-13, 102214 13-07  
TURNER T 111331 13-15  
TURNER TAR 106422 13-03  
TYMANOV VP 107720 13-03

**U**

UEDA I 101705 13-03, 119691 13-04  
UHLENHUTH EH 092456 13-10, 095539 13-10, 104143 13-10  
ULYANOVA OV 111131 13-05  
ULLETT G 105009 13-13  
ULLBERG S 123290 13-03  
ULM RR 091532 13-03  
UNGER S 116810 13-11  
UNGERER A 106685 13-04  
UNGERSTEDT U 120717 13-03, 122547 13-03  
URETSKY NJ 082721 13-03  
URQUIAGA X 104142 13-04  
URSIN H 104808 13-04  
UYENO ET 125250 13-04  
UZUNOV P 106060 13-03, 107123 13-03

**V**

VACCARI A 105710 13-03  
VACHEK J 105992 13-03, 105993 13-03  
VACHON M 099801 13-03  
VAEDTKE J 087042 13-10  
VALDECASAS FG 105707 13-03  
VALE S 098751 13-09  
VALLE JR 086774 13-14  
VALLEY JF 102833 13-08  
VALZELLI L 103952 13-04, 104803 13-04, 105400 13-04, 125653 13-03  
VAN COLLER PE 099882 13-10  
VAN DE VORST A 087366 13-01  
VAN DER KLEIJN E 103651 13-03, 106616 13-13  
VAN DER POEL AM 088730 13-04  
VAN DER VELDE CD 079779 13-13  
VAN DYK JM 087115 13-03  
VAN KEMPEN GMJ 102185 13-15  
VAN KREVELEN DA 101076 13-17  
VAN LOMMEL R 115396 13-13  
VAN PRAAG HM 087865 13-17, 100811 13-10, 104829 13-13, 111694 13-09  
VAN PRAGG H 104832 13-13  
VAN ROSSUM JM 106616 13-13  
VAN SCHILFGAARDEN R 111694 13-09  
VAN SLOTEN M 104137 13-04  
VAN WEST A 082735 13-17  
VAN WOERT M 091448 13-10, 096471 13-13, 103187 13-15  
VAN ZWIETEN PA 106911 13-03  
VARDIMAN DR 101741 13-04  
VARGA E 117023 13-11  
VARGAFIC BB 107160 13-03  
VARON S 077725 13-03  
VASAR H 086571 13-07  
VASIC BV 106424 13-04  
VASQUEZ BJ 102094 13-04, 103461 13-04, 103949 13-04  
VAUGHAN T 093260 13-10  
VAZQUEZ J 108793 13-03  
VEDRINE J 100403 13-15, 100404 13-15, 100406 13-15  
VELASCO DE PARRA M 106761 13-14  
VENCOSKY E 087135 13-10, 105836 13-09  
VERDIERE-SAHUQUE M 107194 13-03  
VERE DW 120417 13-13  
VERECKEN JTM 087239 13-15  
VERECKEN M 102577 13-07  
VERN B 109621 13-03  
VERNAKAKIS A 089332 13-04  
VERTUA R 105710 13-03  
VERYOVKINA IV 118566 13-03  
VESELL ES 100419 13-13, 111618 13-13  
VESELYUNENE MA 111136 13-03  
VESSMAN J 123293 13-03  
VIALA A 093821 13-13  
VIDAL G 086774 13-14  
VILAND B 125772 13-14  
VILLEUVE A 086926 13-15, 109234 13-15  
VINAR O 105835 13-11, 105837 13-15, 105913 13-09, 105927 13-08, 106098 13-17, 106099 13-17, 112436 13-15  
VINAROVA E 105835 13-11, 105913 13-09, 112436 13-15  
VINOGRADOV VV 107719 13-03

VIOL GW 082831 13-15  
VITANI C 100406 13-15  
VITULLI WF 104074 13-04  
VIZI ES 123270 13-04  
VLACHOS V 100208 13-10  
VOGEL JR 124108 13-04, 125164 13-04  
VOGEL W 088596 13-14  
VOGEL WH 086576 13-13  
VOGT M 106922 13-03  
VOITH K 105013 13-04  
VOJTECHOVSKY M 105906 13-03, 105917 13-14  
VOL'F AS 102795 13-11  
VOLKER T 087291 13-09  
VOLLUM DI 098142 13-15  
VOLTOLINA EJ 125503 13-15  
VON BAHR C 098616 13-03, 122576 13-03  
VON HESSLING P 103794 13-15  
VON HILSHHEIMER G 082735 13-17  
VON VONGLANDER PF 107046 13-03, 112064 13-13  
VON WRIGHT JM 101758 13-04  
VONDRACEK V 093646 13-17  
VORNE M 088540 13-13  
VOROB'YEVA VM 111293 13-03  
VORONKA GS 111831 13-03  
VORONTSOV AV 111130 13-03  
VOTAVA J 094923 13-03  
VOTAVA Z 105840 13-03, 105906 13-03  
VOTAVOVA M 088486 13-03  
VOVINA YN 111738 13-08  
VOWLES DM 100047 13-09  
VTIURIN BV 107720 13-03  
VUILLON-CACCIUTTOLO G 086702 13-03  
VULLIAMY D 090761 13-15  
VYMAZAL J 101418 13-11  
VYSOTSKAYA NB 111293 13-03

# W

WACLAUW P 118128 13-15, 118218 13-09  
WAD N 089324 13-03  
WADA JA 104786 13-04, 119724 13-03  
WADA T 101705 13-03  
WAGNER IG 103626 13-10  
WAHLSTROM G 087344 13-04, 125248 13-03  
WAJDA IJ 089050 13-03  
WAJSBORT J 125996 13-11  
WALDECK B 103313 13-03  
WALINDER J 101888 13-09  
WALKER EE 074318 13-07  
WALKER RJ 120408 13-03  
WALL ME 082707 13-03  
WALLACE JE 086892 13-16, 104536 13-03  
WALLACH MB 077989 13-03, 099110 13-04, 107045 13-03  
WALLAND A 106149 13-03  
WALLER JJ 099158 13-11  
WALLER TG 102549 13-04  
WALSH JM 088070 13-04  
WALSTAD DL 087365 13-03  
WALTER CJS 086532 13-16  
WALTER S 086702 13-03  
WALTERS AJ 087363 13-14  
WALTERS GC 098924 13-04  
WANG CH 101704 13-03  
WANG CT 082879 13-06  
WANG SC 089285 13-03  
WANG W 122553 13-03  
WARBURTON DM 079533 13-04, 095197 13-04, 102095 13-04, 103461 13-04  
WARD CO 078164 13-03  
WARD JW 103947 13-04, 104174 13-04, 105407 13-03, 106154 13-02, 112001 13-05  
WARDASZKO-LYSKOWSKA H 122945 13-17  
WARNES H 098690 13-15  
WARWICK G 109503 13-04  
WASER PG 102733 13-03  
WASIK A 118204 13-08  
WASILEWSKA E 119648 13-03  
WASILEWSKI R 123892 13-11  
WASZ-HOCKERT O 100256 13-11  
WATANABE AM 092899 13-09  
WATANABE H 102883 13-04  
WATANABE M 120930 13-03  
WATANABE S 123050 13-10  
WATKINS JC 099266 13-03  
WATKINSON WD 115043 13-03  
WATSON JP 109845 13-10  
WATSON LS 101702 13-03

# Psychopharmacology Abstracts

WATSON R 089921 13-15  
WATTS DC 089049 13-03  
WATTS RD 073606 13-11  
WAY EL 111518 13-14  
WEBB GD 109918 13-03  
WEBB SN 101525 13-03  
WEBB WL 089319 13-17  
WEBSTER CD 098924 13-04  
WEBSTER RA 077424 13-04, 077425 13-04  
WEBSTER WR 108671 13-03  
WEDNER HJ 107113 13-06  
WEIDTMANN W 098562 13-11  
WEIGHT F 094923 13-03  
WEINBERG LK 092159 13-14  
WEINGARTNER H 071566 13-12, 078958 13-12  
WEINSHILBOUM R 099018 13-03  
WEINSTEIN H 077725 13-03  
WEINSTEIN MR 086356 13-09, 108959 13-08  
WEINTRAUB MI 103187 13-15  
WEISE CC 100208 13-10, 102213 13-10  
WEISS VK 093553 13-03, 103948 13-03  
WEISS B 087123 13-03, 099967 13-03, 106059 13-03, 106060 13-03, 107123 13-03  
WEISS BL 092374 13-03  
WEISS G 101643 13-11  
WEISS JL 092998 13-13, 107995 13-15, 110844 13-17  
WEISS M 095311 13-15  
WEISSMAN A 125167 13-04  
WEITZEL WD 093270 13-17  
WELBEL L 086596 13-13  
WELLER CP 105010 13-03  
WELLER WL 082782 13-03  
WELLS PG 107595 13-11  
WENZEL J 098297 13-04, 113567 13-03  
WERNER I 079663 13-03  
WESLUCHA P 110474 13-07  
WESLEY-HADZUA B 077904 13-13  
WESOLKOWSKI J 087019 13-15  
WESSON DR 071568 13-16, 111517 13-14  
WEST GB 089442 13-03  
WEST N 086576 13-13  
WESTERMAN KH 094258 13-03, 122047 13-03, 122048 13-03  
WESTFALL BA 125329 13-03  
WESTLAKE RJ 085013 13-10  
WESTLAKE WJ 100258 13-07  
WHALEN EM 100208 13-10, 102213 13-10  
WHARTON RN 088143 13-07, 092932 13-09  
WHEATLEY D 111660 13-14  
WHELAN G 089284 13-03  
WHITE RP 099653 13-03  
WHITEHEAD PL 101684 13-11  
WHITTINGTON HG 079289 13-10  
WHYBROW PC 101061 13-15  
WIDEN L 104833 13-15  
WIDERLOV E 087344 13-04  
WIDMAN M 123262 13-03  
WIECEK Z 086593 13-11  
WIJFFELS CCG 103651 13-03  
WILBANKS GD 077909 13-15  
WILBUR EM 094956 13-03  
WILCZKOWSKA K 087023 13-09  
WILDE U 104789 13-13  
WILEY RG 103652 13-04, 104325 13-04  
WILKINSON EG 103633 13-15  
WILKINSON S 073309 13-04  
WILKINSON V 095621 13-15  
WILLIAMS DI 099685 13-04  
WILLIAMS HL 104828 13-14, 105007 13-14  
WILLIAMS IR 101764 13-05  
WILLIAMS MW 099012 13-08  
WILLIAMS R 111963 13-15  
WILLIAMS RB 088986 13-15  
WILLINSKY MD 098924 13-04  
WILSON AB 105413 13-04, 120410 13-03  
WILSON CWM 082816 13-06  
WILSON D 100208 13-10  
WILSON DE 098158 13-03  
WILSON M 082858 13-04  
WILSON MC 111146 13-04  
WILSON S 088702 13-03  
WILSON WF 103916 13-14  
WINDER AF 119698 13-03  
WINEK CL 089179 13-15, 098634 13-03  
WING JK 101527 13-08  
WINICK L 083163 13-07  
WINK C 110002 13-11

WINKELMAN GW 100438 13-16  
 WINKELMAN NW 099155 13-10  
 WINKLER J 104226 13-07  
 WINOCUR G 106491 13-03  
 WINOKUR A 086251 13-03  
 WINSTON F 101622 13-09  
 WINTER JC 088584 13-04, 098160 13-03, 106489 13-04  
 WINTERS WD 082860 13-04  
 WISE CD 077680 13-04, 088491 13-04  
 WISZCZOR-ADAMCZYK B 123890 13-07  
 WITT PH 079096 13-04  
 WLOSINSKA I 122942 13-09  
 WOHLBERG GW 108268 13-17  
 WOJCIK J 100334 13-03  
 WOJDYSLAWSKA I 089302 13-11  
 WOJDYSLAWSKA-WALD I 089301 13-09  
 WOLF HH 089098 13-03  
 WOLKOWA RP 087034 13-09  
 WOLLEMAN M 108717 13-03  
 WOLTHUIS OL 107159 13-04  
 WONG GH 118717 13-11  
 WOOD CD 073494 13-05  
 WOOD D 108727 13-15  
 WOOD SM 089060 13-04  
 WOODARD G 112001 13-05  
 WOODBURY DM 093933 13-03  
 WOODRUFF GN 120408 13-03  
 WOODS JH 082719 13-04  
 WOODS LA 077878 13-03, 086105 13-04  
 WOODWARD DJ 125594 13-03  
 WOODY JN 077909 13-15

WORKMAN MP 104137 13-04  
 WORM K 123265 13-06  
 WORRELL JB 080564 13-17  
 WRAY SR 102190 13-04, 111145 13-04  
 WRIGHT JA 100417 13-13  
 WRIGHTON RJ 106063 13-11  
 WURTMAN RJ 088702 13-03  
 WYATT RJ 085951 13-13, 090929 13-14, 093258 13-14, 093260 13-10, 098149 13-14, 099063 13-14, 103248 13-14

## Y

YAHAL M 125996 13-11  
 YAMAMOTO K 126039 13-14  
 YAMUCHI Y 126039 13-14  
 YARBROUGH GG 103648 13-03  
 YARYURA-TOBIAS JA 098978 13-08, 107286 13-08, 107994 13-14  
 YEH SY 077878 13-03  
 YEN HCY 077992 13-04  
 YLIKAHRI RH 115044 13-03  
 YOSHIDA H 120949 13-14  
 YOUNG J 100791 13-10, 111963 13-15  
 YOUNG PR 077991 13-02  
 YOUNGKEN HW 100169 13-03  
 YUI T 105392 13-02  
 YUWILER A 092573 13-11

## Z

ZABOROWSKI A 089302 13-11  
 ZABRODIN ON 113520 13-03  
 ZADOK R 093796 13-11  
 ZAHOREK R 079289 13-10  
 ZAKOWSKA-DABROWSKA T 089303 13-08  
 ZAKUSOV VV 082760 13-03, 113480 13-03  
 ZALEWSKI K 086596 13-13  
 ZALL H 088144 13-07  
 ZAMECHNIK L 106099 13-17  
 ZAMOSTIEN BB 092162 13-07  
 ZANATI G 086577 13-01  
 ZAPLETALEK M 105924 13-08  
 ZAR MA 109198 13-03  
 ZARCONI V 098149 13-14  
 ZAVIDOVSKAYA GI 113750 13-09  
 ZAYTSEV AA 113429 13-08  
 ZEBROWSKA-LUPINA I 104434 13-03  
 ZEIDENBERG P 088143 13-07  
 ZGAGA N 102383 13-11  
 ZHURKOV VS 113434 13-03  
 ZIEGLER H 105342 13-04  
 ZIFF DR 078938 13-04  
 ZIMMERBERG B 099697 13-04, 101352 13-04  
 ZIMMERMAN HJ 118569 13-05  
 ZIMMERMAN RG 109503 13-04  
 ZIZKA V 105836 13-09  
 ZUMMO C 107962 13-03  
 ZURADA-WYRWINSKA J 122947 13-09  
 ZVEZDINA ND 105726 13-03  
 ZVOLSKY P 086077 13-13, 102039 13-15  
 ZYG J 118127 13-08



# SUBJECT INDEX

[The Subject Index is machine generated. Keywords in the titles of abstracts appear alphabetically in the left hand margin, under each keyword is a list of titles in which the keyword appears. The spelling of words in the titles of abstracts has not been changed, hence, two spellings of the same word may appear in this index—for example, BEHAVIOR and BEHAVIOUR.]

- ABBOTT-30360**  
PHARMACOLOGIC STUDIES WITH ABBOTT-30360, AN ANALGESIC TRANQUILIZER, AND ITS ANALOGUES. 077991 13-02
- ABDOMINAL**  
FUNCTIONING OF IDENTIFIED NEURONS AND SYNAPSES IN ABDOMINAL GANGLION OF APLYSIA IN ABSENCE OF PROTEIN SYNTHESIS. 102512 13-03  
ACTION AND ROLE OF SULPHIDE IN THE TREATMENT OF ABDOMINAL PAIN SYNDROMES ASSOCIATED WITH PSYCHIATRIC PROBLEMS. 121849 13-17
- ABERRATIONS**  
CHROMOSOMAL ABERRATIONS IN USERS OF PSYCHOACTIVE DRUGS. 092717 13-14
- ABILITY**  
MESCALINE INDUCED CHANGES OF BRAIN CORTEX RIBOSOMES. EFFECT OF MESCALINE ON AMINO ACID INCORPORATING ABILITY OF RIBOSOMES. 109418 13-03
- ABSENCE**  
FUNCTIONING OF IDENTIFIED NEURONS AND SYNAPSES IN ABDOMINAL GANGLION OF APLYSIA IN ABSENCE OF PROTEIN SYNTHESIS. 102512 13-03
- ABSORPTION**  
THE BUCCAL ABSORPTION OF SOME BARBITURATES. 087141 13-06  
INHIBITION OF L-PHENYLALANINE ABSORPTION BY L-DOPA IN PATIENTS WITH PARKINSONISM. 099851 13-13  
A PHARMACOKINETIC ANALYSIS OF LITHIUM CARBONATE ABSORPTION FROM SEVERAL FORMULATIONS IN MAN. 100258 13-07  
DELAYED OXYPHENYLBUTAZONE ABSORPTION BY SOME TRICYCLIC COMPOUNDS IN THE RAT. 103450 13-03  
ADMINISTRATION OF TWO OF MORE RELATED DRUGS TO INVESTIGATE THE EFFECT OF MOLECULAR MODIFICATION AND FORMULATION ON DRUG ABSORPTION, METABOLISM AND EXCRETION. 106908 13-13  
ON THE EFFECT OF PHARMACEUTICAL FORMULATION ON THIORIDAZINE ABSORPTION. 120830 13-13  
THE EFFECT OF ETHANOL ON PHENOBARBITONE AND PENTOBARBITONE ABSORPTION INTO RAT BLOOD AND BRAIN. 122551 13-03
- ABSTINENCE**  
DECLINE IN THE MEAN INTEGRATED ELECTROENCEPHALOGRAPH VOLTAGE DURING MORPHINE ABSTINENCE IN THE RAT. 086106 13-03  
ELECTROENCEPHALOGRAPHIC STUDIES ON CODEINE DEPENDENCE IN RAT WITH SPECIAL REFERENCE TO THE SPIKE FORMATION IN THE HIPPOCAMPUS DURING ABSTINENCE SYNDROME. 098304 13-03  
THE PSYCHOLOGICAL EFFECTS OF PROPRANOLOL IN THE ABSTINENCE PHASE OF CHRONIC ALCOHOLICS. 107594 13-11
- ABSTINENT**  
DISTURBED PATTERNS OF BEHAVIOUR IN MORPHINE TOLERANT AND ABSTINENT RATS. 096150 13-04
- ABUSE**  
ETHCHLORVYNOL (PLACIDYL) ABUSE AND WITHDRAWAL (REVIEW OF CLINICAL PICTURE AND REPORT OF 2 CASES). 088152 13-15  
DRUGS OF DEPENDENCE THOUGHT NOT OF ABUSE: FENFLURAMINE AND IKIPRAMINE. 092160 13-12  
PROGRESS REPORT ON THE ASSESSMENT OF THE ANTAGONISTS NALBUPHINE AND GPA-2087 FOR ABUSE POTENTIAL AND STUDIES OF THE EFFECTS OF DEXTROMETHORPHAN IN MAN (UNPUBLISHED PAPER). 094938 13-13  
DRUGS AND THEIR ABUSE: NO. 1 - THE ABUSE OF ANTIDEPRESSANT DRUGS. 095450 13-09  
DIAZEPAM, ALCOHOL, AND BARBITURATE ABUSE. 107948 13-15  
SOME LESS FAMILIAR DRUGS OF ABUSE. 109014 13-13  
PHARMACOLOGY OF NARCOTICS AND ANTAGONISTS AS RELATED TO DRUG ABUSE. 116814 13-13
- ABUSES**  
THE USE OF MEGAVITAMIN THERAPY IN REGULATING SEVERE BEHAVIOR DISORDERS, DRUG ABUSES AND FRANK PSYCHOSIS. 082735 13-17
- ACCELERATING**  
POSSIBILITIES OF ACCELERATING THE ONSET OF THE EFFECT OF ANTIDEPRESSIVE PHARMACOTHERAPY. 086076 13-14  
POSSIBILITIES OF ACCELERATING THE ONSET OF EFFECT OF ANTIDEPRESSIVE PHARMACOTHERAPY. 101505 13-10
- ACCEPTANCE**  
ACCEPTANCE OF ORGAN LAMBS BY TRANQUILIZED EWES (OVIS-ARIES). 100048 13-04
- ACCIDENTAL**  
ACCIDENTAL AND SELF-INDUCED POISONING IN GALVESTON COUNTY 1958-1969. 088503 13-15  
ACCIDENTAL CONDITIONING WITH CHRONIC METHAMPHETAMINE INTOXICATION: IMPLICATIONS FOR A THEORY OF DRUG HABITUATION. 110187 13-04  
EXOGENOUS PSYCHOSIS FOLLOWING ACCIDENTAL HALOPERIDOL INTOXICATION. 118217 13-15
- ACCUMULATION**  
SEROTONIN ACCUMULATION AFTER MONOAMINE OXIDASE INHIBITION. 082792 13-03  
PROTEIN METABOLISM AND AMINO ACID ACCUMULATION IN THE RAT SUBMAXILLARY GLAND DURING REDUCED SYMPATHETIC ACTIVITY. 087123 13-03  
THE ACCUMULATION OF 14C-SEROTONIN IN THE SYMPATHETIC NERVES OF THE GUINEA-PIG VAS-DEFERENS (UNPUBLISHED PAPER). 092689 13-03  
ACCUMULATION OF METABOLITES DURING CHRONIC APPLICATION OF THE NEUROLEPTIC DRUG PERAZINE TO RATS. 123268 13-03
- ACETALDEHYDE**  
TETRAHYDROISOQUINOLINE ALKALOIDS IN THE ADRENAL MEDULLA AFTER PERFUSION WITH BLOOD CONCENTRATIONS OF (14C)ACETALDEHYDE. 108281 13-03
- ACETATE**  
CLINICAL AND EXPERIMENTAL PSYCHOLOGICAL INVESTIGATIONS OF THE EFFECT OF ANTIANDROGEN CYPROTERONE ACETATE IN SLIGHTLY IRRESPONSIBLE AND GROSSLY IRRESPONSIBLE SEXUAL DELINQUENTS. 088693 13-11  
METHADONE AND L-METHADYL ACETATE: USE IN MANAGEMENT OF NARCOTICS ADDICTS. 091592 13-07  
A COMPARISON OF SIDE-EFFECTS BETWEEN LITHIUM ACETATE AND LITHIUM SULFATE. 103794 13-15  
ANTIANDROGEN THERAPY WITH CYPROTERONE ACETATE IN CHILD AND ADOLESCENT PSYCHIATRY: AN OVERVIEW OF RESULTS ACHIEVED. 125703 13-11
- ACETAZOLAMIDE**  
RESERPINE AND ACETAZOLAMIDE IN MAXIMUM ELECTROSHOCK SEIZURE IN THE RAT. 082880 13-03
- ACETOPHENAZINE**  
ACETOPHENAZINE AND DIAZEPAM IN ANXIOUS DEPRESSIONS. 088148 13-10
- ACETYLCHOLINE**  
DESIPRAMINE (DMI): EFFECT ON THE LEVELS OF ACETYLCHOLINE (ACH) IN WHOLE BRAIN AND IN STRIATUM OF RATS. 086811 13-03  
EFFECT OF TRIPERIDOL ON PROCESSES INVOLVING ACETYLCHOLINE IN RAT BRAIN IN VITRO. 086821 13-03  
NORADRENALINE AND ACETYLCHOLINE RESPONSES OF SUPRAOPTIC NEUROSECRETORY CELLS (UNPUBLISHED PAPER). 092379 13-03  
CHOLINERGIC INFLUENCED NARCOSIS AND BRAIN ACETYLCHOLINE CONTENT OF MOUSE. 094258 13-03  
ROLE OF BRAIN ACETYLCHOLINE AND DOPAMINE IN ACUTE NEUROTIC EFFECTS OF DDT. 099652 13-05

## Subject Index

- EFFECTS OF NARCOTIC ANALGESICS AND ANTAGONISTS ON THE IN VIVO RELEASE OF ACETYLCHOLINE FROM THE CEREBRAL CORTEX OF THE CAT. 104537 13-03
- EFFECT OF PSYCHOTROPIC AGENTS ON THE EMOTIONAL BEHAVIOR OF CATS INJECTED WITH ACETYLCHOLINE INTO THE CENTRAL GRAY MATTER. 112007 13-04
- IN VIVO INCORPORATION OF LABELLED CHOLINE AND ACETYLCHOLINE IN THE VESICLES OF BRAIN NERVE ENDINGS. 123283 13-03
- ACETYLCHOLINE-LIKE**
- A POSSIBLE SYNAPTIC MECHANISM UNDERLYING THE SIMILAR BEHAVIOURAL EFFECTS OF ADRENALINE-LIKE AND ACETYLCHOLINE-LIKE DRUGS. 106846 13-13
- ACETYLCHOLINESTERASE**
- CHOLINE ACETYLTRANSFERASE AND ACETYLCHOLINESTERASE IN CULTURED BRAIN CELLS FROM CHICK EMBRYOS. 079663 13-03
- ACQUISITION OF NEW RESPONSES BY RATS DURING CHRONIC DEPRESSION OF ACETYLCHOLINESTERASE ACTIVITY. 103461 13-04
- ACETYLCHOLINESTERASE**
- CHOLINE ACETYLTRANSFERASE AND ACETYLCHOLINESTERASE IN CULTURED BRAIN CELLS FROM CHICK EMBRYOS. 079663 13-03
- EFFECTS OF MORPHINE ON CHOLINE ACETYLTRANSFERASE LEVELS IN THE CAUDATE NUCLEUS OF THE RAT. 089050 13-03
- THE EFFECTS OF CHRONIC ADMINISTRATION OF SOME CHOLINERGIC AND ADRENERGIC DRUGS ON THE ACTIVITY OF CHOLINE ACETYLTRANSFERASE IN THE OPTIC LOBES OF THE CHICK BRAIN. 100219 13-03
- ACH**
- DESIPRAMINE (DMI): EFFECT ON THE LEVELS OF ACETYLCHOLINE (ACH) IN WHOLE BRAIN AND IN STRIATUM OF RATS. 086811 13-03
- ACHIEVED**
- ANTIANDROGEN THERAPY WITH CYPROTERONE ACETATE IN CHILD AND ADOLESCENT PSYCHIATRY. AN OVERVIEW OF RESULTS ACHIEVED. 125703 13-11
- ACID**
- THE INFLUENCE OF SELECTIVE TEMPORAL LOBE DAMAGE ON BEHAVIOR AND THE RESPONSE TO LYSERGIC ACID DIETHYLAMIDE. 073494 13-05
- EFFECTS OF THIOPROPERAZINE ON THE URINARY EXCRETION AND CONCENTRATION IN THE CEREBROSPINAL FLUID OF 5-HYDROXYINDOLEACETIC ACID IN THE CHRONIC SCHIZOPHRENIC. 074835 13-13
- EFFECTS OF IMIPRAMINE ON THE NA-ION DEPENDENT EXCHANGE AND RETENTION OF GAMMA-AMINOBUTYRIC ACID BY MOUSE BRAIN SUBCELLULAR PARTICLES. 077725 13-03
- THE SUBCELLULAR DISTRIBUTION OF ENDOGENOUS AND EXOGENOUS SEROTONIN IN BRAIN TISSUE: COMPARISON OF SYNAPTOSES STORING SEROTONIN, NOREPINEPHRINE, AND GAMMA-AMINOBUTYRIC ACID. 077855 13-03
- COMBINED ADMINISTRATION OF THIORIDAZINE AND NICOTINIC ACID IN THE TREATMENT OF GERIATRIC PATIENTS. 078942 13-11
- BLOOD-BRAIN BARRIER TO H3-GAMMA-AMINOBUTYRIC ACID IN NORMAL AND AMINOXYACETIC ACID TREATED ANIMALS. 082756 13-03
- NEUROPHARMACOLOGICAL STUDIES OF IMIDAZOLE-4-ACETIC ACID ACTIONS IN THE MOUSE AND RAT. 082860 13-04
- BEHAVIORAL AND ELECTROGRAPHIC EFFECTS OF D-LYSERGIC ACID DIETHYLAMIDE (LSD-25) ON THE PHOTSENSITIVE PAPIO-PAPIO. 086702 13-03
- STRUCTURAL ANALOGS OF LYSERGIC ACID. 086796 13-01
- EFFECT OF ANESTHETIC DOSES OF GAMMA-HYDROXYBUTYRATE ON SUBCORTICAL CONCENTRATION OF HOMOVANILLIC ACID. 086813 13-03
- THE ACTION OF LYSERGIC ACID DIETHYLAMIDE (LSD-25) ON CONDITIONING AND SEDATION. 086858 13-04
- PROTEIN METABOLISM AND AMINO ACID ACCUMULATION IN THE RAT SUBMAXILLARY GLAND DURING REDUCED SYMPATHETIC ACTIVITY. 087123 13-03
- EFFECTS OF CHLORPROMAZINE ON CELL WALL BIOSYNTHESIS AND INCORPORATION OF OROTIC ACID INTO NUCLEIC ACIDS IN *BACILLUS-MEGATERIUM*. 088517 13-03

## Psychopharmacology Abstracts

- METABOLISM OF CHLORPROMAZINE AND P-NITROBENZOIC ACID IN THE LIVER, INTESTINE AND KIDNEY OF THE HUMAN FETUS. 088540 13-13
- EFFECT OF MESCALINE AND LYSERGIC ACID DIETHYLAMIDE ON FLICKER DISCRIMINATION IN THE RAT. 088584 13-04
- DEMONSTRATION OF 3,4 DIHYDROXYBENZOIDIC(14C) ACID AND (14C)VANILLIC ACID AFTER ADMINISTRATION OF (14C)NORADRENALINE IN THE RAT. 088637 13-03
- INFLUENCE OF PH ON AGGREGATION AND PROTEIN BINDING OF BARBITURIC ACID AND AMYLOBARBITONE. 089049 13-03
- SEX DIFFERENCES IN BRAIN DEOXYRIBONUCLEIC ACID AND CHOLINESTERASE ACTIVITY IN RATS. 089332 13-04
- ENHANCEMENT OF FATTY ACID OXIDATION AND MEDIUM CHAIN FATTY ACYL COENZYME A SYNTHETASE BY ADENINE NUCLEOTIDES IN RAT HEART HOMOGENATES. 089434 13-03
- A SOURCE OF ERROR IN THE ESTIMATION OF VANILLYLAMANDLIC ACID IN RAT URINE USING PERIODATE OXIDATION (UNPUBLISHED PAPER). 092893 13-06
- ANTICONVULSANT DRUGS, FOLIC ACID METABOLISM, FIT FREQUENCY AND PSYCHIATRIC ILLNESS. 093822 13-15
- EFFECT OF N,N DIMETHYLTRYPTAMINE AND D-LYSERGIC ACID DIETHYLAMIDE ON THE RELEASE OF 5-HYDROXYINDOLES IN RAT FOREBRAIN. 095366 13-03
- THE INFLUENCE OF BARBITURATE ANESTHESIA UPON THE ENERGY STATE AND UPON ACID BASE PARAMETERS OF THE BRAIN IN ARTERIAL HYPOTENSION AND IN ASPHYXIA. 095999 13-03
- GLUCOSE, INSULIN, AND FREE FATTY ACID METABOLISM IN PARKINSONS DISEASE TREATED WITH LEVODOPA. 096471 13-13
- A SYSTEMATIC CLINICAL STUDY WITH NICOTINIC ACID, THIORIDAZINE, FLUOXYMESTERONE AND THEIR COMBINATIONS IN HOSPITALIZED GERIATRIC PATIENTS: THERAPEUTIC RESULTS AND CHANGES IN PSYCHOMETRIC TEST PERFORMANCE. 098507 13-11
- COMBINED ADMINISTRATION OF THIORIDAZINE, NICOTINIC ACID, AND FLUOXYMESTERONE IN THE TREATMENT OF GERIATRIC PATIENTS. 098601 13-13
- LYSERGIC ACID DIETHYLAMIDE TARTRATE (LSD-25) DOSAGE LEVELS, GROUP DIFFERENCES, AND SOCIAL INTERACTION. 098888 13-12
- H3-LYSERGIC ACID DIETHYLAMIDE: CELLULAR AUTORADIOGRAPHIC LOCALIZATION IN RAT BRAIN. 098956 13-03
- METABOLIC ASPECTS OF AMINO ACID LOADING AND DRUG ADMINISTRATION IN ANIMAL STUDIES. AFFECTIVE ILLNESSES. 099335 13-03
- THE VIOLET PIGMENT OF LYSERGIC ACID ALKALOID PRODUCING CULTURES OF CLAVICEPS-PASPALI: FERRIC COMPLEX OF 2,3 DIHYDROXYBENZOIDIC ACID. 100171 13-01
- THE INFLUENCE OF 1,5 DICAFFEYLQUINIC ACID ON SERUM LIPIDS IN THE EXPERIMENTALLY ALCOHOLISED RAT. 100334 13-03
- FOLIC ACID CONCENTRATIONS IN CEREBROSPINAL FLUID IN RELATION TO ANTICONVULSANT DRUGS AND CEREBRAL ATROPHY. 100809 13-11
- EFFECTS OF VARIOUS HYDRAZINES UPON THE METABOLISM OF GAMMA-AMINOBUTYRIC ACID (GABA)-1-14C BY RATS. 101704 13-03
- LACK OF EFFECT OF FOLIC ACID ADMINISTRATION ON CEREBRAL METABOLISM. 101764 13-05
- ON THE INFLUENCE OF HALOPERIDOL ON LYSERGIC ACID INTOXICATION. 102792 13-03
- NICOTINIC ACID AND PSYCHIATRY. 102832 13-17
- NICOTINIC ACID AND NICOTINAMIDE IN THE TREATMENT OF CHRONIC SCHIZOPHRENIA. 102833 13-08
- USE OF LYSERGIC ACID DIETHYLAMIDE IN CHILD PSYCHIATRY. 102838 13-12
- ACTION OF PICRIC ACID ON THE EFFECTS OF SOME DRUGS ACTING ON THE CENTRAL NERVOUS SYSTEM, WITH SPECIAL REFERENCE TO OPIOIDS. 103655 13-03
- THE INFLUENCE OF OROTIC ACID ON THE RETROGRADE AMNESIA CAUSED BY ECS. 103945 13-04

- REGIONAL AND SUBCELLULAR CHANGES IN THE CONCENTRATION OF 5-HYDROXYTRYPTAMINE AND 5-HYDROXYINDOLEACETIC ACID IN THE RAT BRAIN CAUSED BY HYDROCORTISONE, DL-ALPHA-METHYLTRYPTOPHAN, L-KYNURENINE AND IMMOBILIZATION. 104538 13-03
- LYSERGIC ACID DIETHYLAMIDE, AMPHETAMINE AND CHLORPROMAZINE ON WATER MAZE DISCRIMINATION IN MICE. 104812 13-04
- INTERRELATIONS OF FOLIC ACID AND VITAMIN-B12 IN DRUG TREATED EPILEPTIC PATIENTS. 106063 13-11
- MESCALINE AND LYSERGIC ACID DIETHYLAMIDE (LSD) AS DISCRIMINATIVE STIMULI. 106489 13-04
- ASPECTS OF THE GASTRIC ACID ANTISECRETORY ACTIVITY OF 3,3-DIMETHYL-1-(3-METHYLAMINOPROPYL)-1 PHENYLPHTHALAN: A BLOCKER OF NOREPINEPHRINE UPTAKE. 106526 13-03
- THE EFFECT OF PETHIDINE ON THE 5-HYDROXYTRYPTAMINE AND 5-HYDROXYINDOLEACETIC ACID CONTENT OF THE MOUSE BRAIN. 106847 13-03
- LEVODOPA NICOTINIC ACID INTERACTION IN PSYCHIATRIC PATIENTS. 107286 13-08
- THE INFLUENCE OF LYSERGIC ACID DIETHYLAMIDE ON THE ACTIVITY OF SOLITARY NEURONS OF SOME CEREBRAL REGIONS. 107722 13-03
- SERUM FOLIC ACID AND PHENYTOIN LEVELS IN PERMANENTLY HOSPITALIZED EPILEPTIC PATIENTS RECEIVING ANTICONVULSANT DRUG THERAPY. 108727 13-15
- EFFECT OF P-NITROMETHYLAMPHETAMINE ON BIOGENIC AMINES AND THEIR AMINO ACID PRECURSORS IN RAT BRAIN. 108794 13-03
- UNEXPLAINED INHIBITORY ACTION OF D-LYSERGIC ACID DIETHYLAMIDE (LSD) ON POSTGANGLIONIC MOTOR TRANSMISSION IN THE GUINEA-PIG VAS-DEFERENS. 109198 13-03
- AUTORADIOGRAPHY OF SOME SUSPECTED NEUROTRANSMITTER SUBSTANCES: GABA GLYCINE, GLUTAMIC ACID, HISTAMINE, DOPAMINE, AND L-DOPA. 109417 13-03
- MESCALINE INDUCED CHANGES OF BRAIN CORTEX RIBOSOMES. EFFECT OF MESCALINE ON AMINO ACID INCORPORATING ABILITY OF RIBOSOMES. 109418 13-03
- EFFECTS OF PSILOCYBIN, DIMETHYLTRYPTAMINE, MESCALINE AND VARIOUS LYSERGIC ACID DERIVATIVES ON THE EEG AND ON PHOTICALLY INDUCED EPILEPSY (PAPIO-PAPIO). 109420 13-03
- SOME EFFECTS OF 4-HYDROXYBUTYRIC ACID ON BRAIN CARBOHYDRATE METABOLISM. 115043 13-03
- STUDIES ON DEOXYRIBONUCLEIC ACID METABOLISM IN HUMAN CELLS TREATED WITH LYSERGIC ACID DIETHYLAMIDE. 120470 13-13
- TREATMENT OF NEUROPSYCHIATRIC DISORDERS WITH PYRIDINE-BETA-CARBONIC ACID. PART II. 126008 13-11
- ACIDS**
- EFFECTS OF MORPHOLINO, PYRROLIDINO, PIPERIZINO, AND CYCLOCTYL DERIVATIVES OF BETA-ALANINE ON BRAIN AMINES AND AMINO ACIDS. 082729 13-04
- EFFECTS OF CHLORPROMAZINE ON CELL WALL BIOSYNTHESIS AND INCORPORATION OF OROTIC ACID INTO NUCLEIC ACIDS IN BACILLUS-MEGATERIUM. 088517 13-03
- THE EFFECTS OF EXCITATORY AND INHIBITORY AMINO ACIDS ON THE METABOLISM OF ENDOGENOUS BRAIN AMINO ACIDS IN THE HEMIBALIZED MOUSE. 099266 13-03
- CHANGES IN FREE FATTY ACIDS OF BRAIN BY DRUG-INDUCED CONVULSIONS, ELECTROSHOCK AND ANESTHESIA. 100868 13-03
- FATTY ACIDS OF LIVER MITOCHONDRIAL AND MICROSOMAL LIPIDS IN THE RAT EXPOSED TO PHENOTHIAZINE DERIVATIVES. 102805 13-03
- EFFECTS OF INTRAPERITONEAL INJECTIONS OF LITHIUM CHLORIDE ON THE ENTRY OF RADIOACTIVE CARBON ATOMS OF GLUCOSE AND AMINO ACIDS INTO MOUSE BRAIN AND OTHER TISSUES. 106524 13-03
- THE EFFECTS OF DRUG-INDUCED INCREASES IN RIBONUCLEIC ACIDS AND PROTEINS ON MEMORY. (PH.D.DISSERTATION). 109503 13-04
- ON THE RELATIONSHIP BETWEEN THE CHEMICAL STRUCTURE AND PSYCHOTROPIC ACTIVITY AMONG DERIVATIVES OF BENZODIOXANE AND TRIMETHYLBENZOIC AND TRIMETHOXYBENZOIC ACIDS. 111291 13-03
- ACQUIESCENCE**
- THE ROLE OF BODY ATTITUDES AND ACQUIESCENCE IN EPINEPHRINE AND PLACEBO EFFECTS. 079188 13-14
- ACQUIRED**
- TEMPORAL EFFECTS OF RNASE AND DNASE IN DISRUPTING ACQUIRED ESCAPE BEHAVIOR IN REGENERATED PLANARIA. 079423 13-04
- ACQUISITION**
- EFFECTS OF RIBONUCLEASE ON ACQUISITION AND RETENTION OF ESCAPE AVOIDANCE BEHAVIOR IN A SELECTIVELY BRED RAT STRAIN. 078453 13-04
- CHLORDIAZEPOXIDE AND AVERSIVE CONDITIONING: EFFECTS OF ACQUISITION AND PERFORMANCE OF THE CONDITIONED NICTITATING MEMBRANE RESPONSE IN THE RABBIT. 078527 13-04
- A BARBITURATE LIKE EFFECT OF ADRENOCORTICOTROPIC HORMONE ON THE PARTIAL REINFORCEMENT ACQUISITION AND EXTINCTION EFFECTS. 082858 13-04
- RHE EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CHLORPROMAZINE ON THE ACQUISITION AND EXTINCTION OF POSITIVELY REINFORCED OPERANT RESPONSES. 088679 13-04
- THE EFFECTS OF CHLORPROMAZINE AND D-AMPHETAMINE ON THE ACQUISITION AND PERFORMANCE OF A CONDITIONED ESCAPE RESPONSE IN RATS. 091532 13-03
- EFFECT OF AN RNA RICH EXTRACT ON ACQUISITION OF A ONE-WAY AVOIDANCE RESPONSE IN RATS. 099686 13-04
- CENTRAL CHOLINERGIC BLOCKADE AND TWO-WAY AVOIDANCE ACQUISITION: THE ROLE OF RESPONSE DISINHIBITION. 102097 13-04
- ACQUISITION OF NEW RESPONSES BY RATS DURING CHRONIC DEPRESSION OF ACETYLCHOLINESTERASE ACTIVITY. 103461 13-04
- ADRENOCORTICAL FUNCTION AND SEX DIFFERENCES IN ACQUISITION AND EXTINCTION OF ACTIVE AVOIDANCE BEHAVIOR IN THE RAT. 104457 13-04
- CHOLINERGIC MECHANISMS AND AVOIDANCE BEHAVIOR ACQUISITION: EFFECTS OF NICOTINE IN MICE. 104462 13-04
- ANALYSIS OF THE ACQUISITION AND EXTINCTION OF FOOD REINFORCED BEHAVIOR IN RATS AFTER THE ADMINISTRATION OF CHLORPROMAZINE. 105012 13-04
- EXPERIMENTS WITH UCB-6215, A DRUG WHICH ENHANCES ACQUISITION IN RATS: ITS EFFECTS COMPARED WITH THOSE OF METHAMPHETAMINE. 107159 13-04
- ACQUISITION OF CONDITIONED AVOIDANCE RESPONSE IN RATS UNDER THE INFLUENCE OF ADDICTING DRUGS. 110182 13-04
- EFFECTS OF POST-TRIAL INJECTIONS OF SCOPOLAMINE AND ESERINE ON ACQUISITION OF A SIMULTANEOUS BRIGHTNESS DISCRIMINATION. 111052 13-04
- ACTH**
- EFFECT OF ACTH ON EXTINCTION OF REWARDED BEHAVIOUR IS BLOCKED BY PREVIOUS ADMINISTRATION OF ACTH. 080109 13-04
- EFFECTS OF ACTH ON VOLES (MICROTUS-PENNSYLVANICUS) RELATED TO REPRODUCTIVE FUNCTION AND RENAL DISEASE. 089016 13-03
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: A STUDY OF THE ADRENOCORTICAL RESPONSE TO INTRAVENOUSLY ADMINISTERED INSULIN AND ACTH. 091370 13-08
- ACTING**
- RELEARNING AT DIFFERENT TIMES AFTER TRAINING AS AFFECTED BY CENTRALLY AND PERIPHERALLY ACTING CHOLINERGIC DRUGS IN THE MOUSE. 097739 13-04
- ACTION OF PICRIC ACID ON THE EFFECTS OF SOME DRUGS ACTING ON THE CENTRAL NERVOUS SYSTEM, WITH SPECIAL REFERENCE TO OPIOIDS. 103655 13-03
- ANTAGONISM OF INTRACEREBRALLY INDUCED NICOTINIC CONVULSIONS IN MICE: A METHOD FOR MEASURING THE CENTRAL ANTHINOTIC ACTIVITY OF CNS ACTING AGENTS. 104807 13-06
- RELEASE OF CATECHOLAMINE FROM THE CAT HEART BY SOME DIRECTLY AND INDIRECTLY ACTING SYMPATHOMIMETIC AMINES. 108288 13-03
- ACTION OF VARIOUS CENTRALLY ACTING AGENTS IN MICE WITH UNILATERAL 108731 13-03

# Subject Index

## ACTINOMYCIN-D

EFFECT OF PUROMYCIN AND ACTINOMYCIN-D INJECTION INTO THE MESENCEPHALIC RETICULAR FORMATION ON THE CONDITIONED REFLEXES OF ANIMALS.

113758 13-04

## ACTION

THE ACTION OF SEDATIVES ON BRAIN STEM OCULOMOTOR SYSTEMS IN MAN.

082861 13-13

ON THE MODE OF ACTION OF RESERPINE ON DOPAMINE METABOLISM IN THE RAT STRIATUM.

083162 13-03

L-DOPA IN PARKINSONISM: A POSSIBLE MECHANISM OF ACTION (UNPUBLISHED PAPER).

085956 13-13

THE ACTION OF LYSERGIC ACID DIETHYLAMIDE (LSD-25) ON CONDITIONING AND SEDATION.

086858 13-04

STIMULANT ACTION OF D-AMPHETAMINE IN RELATION TO TEST COMPARTMENT DIMENSIONS AND BEHAVIORAL MEASURE.

086901 13-04

STUDIES ON THE ANTIDEPRESSANT ACTION OF DOXEPIN (SINEQUAN).

087023 13-09

ROLE OF CEREBRAL DOPAMINE IN THE ACTION OF PSYCHOTROPIC DRUGS.

087361 13-04

MECHANISM OF ACTION OF ANTIPSYCHOTIC DRUGS ON BIOLOGICAL ELECTRON TRANSPORT.

087365 13-03

SPECIFICITY OF ACTION OF 6-HYDROXYDOPAMINE IN PERIPHERAL CAT TISSUES; DEPLETION OF NORADRENALINE WITHOUT DEPLETION OF 5-HYDROXYTRYPTAMINE.

088486 13-03

ANABOLIC ACTION AND SIDE-EFFECTS OF OXANDROLONE IN 34 MENTAL PATIENTS.

088629 13-15

ACTION OF FENFLURAMINE ON MONOAMINE STORES OF RAT TISSUES.

089048 13-03

LOCUS OF CENTRAL DEPRESSANT ACTION OF SOME BENZODIAZEPINE ANALOGUES.

089285 13-03

LSD: TERATOGENIC ACTION IN CHICK BLASTODERMS.

089286 13-05

LITHIUMS SITE OF ACTION: CLUES FROM SIDE-EFFECTS.

089531 13-15

PHARMACOLOGY AND MECHANISMS OF ACTION OF DIPHENHYLDANTOIN.

093933 13-03

COMPARISON OF PYRAZOLE AND 4-BROMOPYRAZOLE AS INHIBITORS OF ALCOHOL DEHYDROGENASES; THEIR POTENCY, TOXICITY AND DURATION OF ACTION IN MICE.

094253 13-05

MODE OF ACTION OF D-PENICILLAMINE IN CHRONIC SCHIZOPHRENIA.

095150 13-08

THE INFLUENCE OF ADRENOLYTIC AGENTS ON THE CATECHOLAMINE TOXIC ACTION IN MICE AND RATS.

098296 13-05

ACTION OF A BENZODIAZEPINE DERIVATIVE, RO-5-4200, ON THE EEG AND SLEEP CYCLE IN PATIENTS WITH INSOMNIA.

098662 13-07

CHLORPROMAZINE REVERSAL OF THE ANTIHYPERTENSIVE ACTION OF GUANETHIDINE.

098750 13-13

DECANOATE OF FLUPHENAZINE, A NEUROLEPTIC WITH RETARDED ACTION, IN THE TREATMENT OF SCHIZOPHRENIA.

098982 13-08

ANXIETY STATE OR MASKED DEPRESSION? A STUDY BASED ON THE ACTION OF MONOAMINE OXIDASE INHIBITORS.

100791 13-10

ACTION OF PICRIC ACID ON THE EFFECTS OF SOME DRUGS ACTING ON THE CENTRAL NERVOUS SYSTEM, WITH SPECIAL REFERENCE TO OPIOIDS.

103655 13-03

EFFECTS OF METHADONE ON THE ACTION OF CATECHOLAMINES IN ISOLATED PREPARATIONS.

104328 13-03

EFFECTS OF ALPHA-METHYLTYROSINE AND ADRENERGIC BLOCKING AGENTS ON THE FACILITATING ACTION OF AMPHETAMINE AND NICOTINE ON LEARNING IN RATS.

104373 13-04

A BIPHASIC ACTION OF CENTRAL CHOLINERGIC STIMULATION ON BEHAVIORAL AROUSAL IN THE RAT.

104432 13-04

CENTRAL ACTION OF PHENTOLAMINE ADMINISTERED INTRAVENTRICULARLY IN THE RAT.

104434 13-03

# Psychopharmacology Abstracts

THE CRITICAL FLICKER FUSION DURING THE ACTION OF DIFFERENT DRUGS: I. COFFEEINE AND MEPROBAMATE (INCLUDING A FULL DESCRIPTION OF THE METHOD).

104789 13-13

THE EFFECT OF DRUGS INFLUENCING AMINE SYNTHESIS ON THE ANALGESIC ACTION OF TREMORINE.

104804 13-03

DIFFERENTIAL ACTION OF DIAZEPAM ON FLIGHT AND DEFENSE BEHAVIOR IN THE CAT.

104808 13-04

STRUCTURE ACTIVITY RELATIONSHIP OF 5-TRIAZOLO 1,4 BENZODIAZEPINES IN CENTRAL NERVOUS DEPRESSANT ACTION.

105390 13-02

PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN. I. THE ACTION ON THE CENTRAL NERVOUS SYSTEM IN RODENT

105839 13-02

PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN. IV. ANTIANDRENERGIC ACTION AND INFLUENCE ON BRAIN MONOAMINES.

105841 13-03

EFFECT OF PHYSOSTIGMINE ON THE INHIBITORY ACTION OF SCOPOLAMINE IN MAN.

105918 13-14

ACTION OF DIAZEPAM ON THE SPINAL CORD.

106148 13-03

PHARMACOLOGICAL ACTION MECHANISMS OF NARCOTIC AGENTS.

107512 13-12

ACTION OF VARIOUS CENTRALLY ACTING AGENTS IN MICE WITH UNILATERAL

108731 13-03

UNEXPLAINED INHIBITORY ACTION OF D-LYSERGIC ACID DIETHYLAMIDE (LSD) ON POSTGANGLIONIC MOTOR TRANSMISSION IN THE GUINEA-PIG VAS-DEFERENS.

109198 13-03

ELECTROPHYSIOLOGICAL STUDY OF THE ACTION OF A NEW BENZODIAZEPINE DERIVATIVE (ORF-8063) ON THE CENTRAL NERVOUS SYSTEM.

117025 13-04

EVALUATION OF THE CLINICAL ACTION OF PIMOZIDE.

118129 13-08

THE ANTIINOCICEPTIVE ACTION OF A NOVEL ANXIOLYTIC AND TENSIOLYTIC DRUG (BENZOCAMINE) IN TWO DIFFERENT WRITHING SYNDROMES.

118200 13-02

EFFECT OF REDUCED BAROMETRIC PRESSURE ON DRUG ACTION AND METABOLISM IN MICE.

118568 13-03

ACTION OF IMPRIMINE ON 5-HYDROXYTRYPTAMINERGIC TRANSMISSION AND ON 5-HYDROXYTRYPTAMINE UPTAKE IN THE SNAIL (HELIX-POMATIA) BRAIN.

120411 13-03

ACTION AND ROLE OF SULPRIDE IN THE TREATMENT OF ABDOMINAL PAIN SYNDROMES ASSOCIATED WITH PSYCHIATRIC PROBLEMS.

121849 13-17

ON THE DOPAMINE-LIKE ACTION OF APOMORPHINE.

122545 13-04

ASSESSMENT OF THE CLINICAL ACTION OF THE PREPARATION TPN-12 SANDOZ IN THE TREATMENT OF MENTAL DISTURBANCES.

122946 13-11

ON THE SEDATIVE ACTION OF THE KAVA RHIZOME (PIPER-METHYST).

123278 13-03

MECHANISM OF ACTION OF PSYCHOTOMIMETIC DRUGS IN THE BRAIN STEM.

125593 13-13

## ACTIONS

NEUROPHARMACOLOGICAL STUDIES OF IMIDAZOLE-4-ACETIC ACID ACTIONS IN THE MOUSE AND RAT.

082860 13-04

SOME ACTIONS OF DELTA1-TETRAHYDROCANNABINOL AND CANNABIDIOL AT CHOLINERGIC JUNCTIONS.

087358 13-03

EFFECTS OF IMPRIMINE, DESIPRAMINE AND MONOAMINE OXIDASE INHIBITORS ON THE METABOLISM AND PSYCHOMOTOR STIMULANT ACTIONS OF D-AMPHETAMINE IN MICE.

089027 13-04

ACTIONS OF MORPHINE AND NARCOTIC ANTAGONIST ANALGESICS ON THE SPINAL CORD OF ACUTE AND CHRONIC SPINAL RATS.

098305 13-03

ACTIONS AND METABOLISM OF HEROIN ADMINISTERED BY CONTINUOUS INTRAVENOUS INFUSION TO MAN.

100417 13-13

SOME BIOCHEMICAL AND PHARMACOLOGICAL ACTIONS OF (-)-JERYTHRO-META-(META CHLOROBENZYL) 2 (1-AMINOETHYL) BENZYL ALCOHOL: A DERIVATIVE OF METARAMINOL.

101702 13-03

- SOME 5-HYDROXYTRYPTAMINE-LIKE ACTIONS OF FENFLURAMINE: A COMPARISON WITH D-AMPHETAMINE AND DIETHYLPROPION. 105413 13-04
- THE EFFECT OF Mescaline AND BUfOTENINE ON SOME CENTRAL ACTIONS OF NORADRENALINE. 106151 13-03
- EFFECT OF DIETHYLAMINOETHYL DIPHENYLPROPYLACETATE HYDROCHLORIDE (SKF-525A) ON THE NOREPINEPHRINE DEPLETING ACTIONS OF D-AMPHETAMINE. 108286 13-03
- ACTIONS OF DEXAMPHETAMINE AND AMPHETAMINE-LIKE AMINES IN CHICKENS WITH BRAIN TRANSECTIONS. 109194 13-03
- EXCITATORY ACTIONS OF GABA AND OF INHIBITORY NEURONS. 125598 13-03
- ACTIVATED**
- DIALYSIS OF DRUGS AGAINST ACTIVATED CHARCOAL. 078162 13-16
- SODIUM AND POTASSIUM ACTIVATED ATPASE OF BEEF BRAIN - EFFECTS OF SOME TRANQUILIZERS. 101705 13-03
- ACTIVATION**
- ACTIVATION OF BRAIN SEROTONIN METABOLISM BY HEAT: ROLE OF MIDBRAIN RAPHE NEURONS. 092374 13-03
- ACTIVE**
- DEFICIT IN ACTIVE AVOIDANCE LEARNING IN RATS FOLLOWING PENICILLIN INJECTION INTO HIPPOCAMPUS. 095382 13-04
- ASSOCIATION OF CNS ACTIVE DRUGS WITH 9-ETHYLADENINE. 102101 13-17
- EFFECTS OF METHAMPHETAMINE AND SHOCK DURATION DURING INESCAPABLE SHOCK EXPOSURE ON SUBSEQUENT ACTIVE AND PASSIVE AVOIDANCE. 102549 13-04
- ADRENO-CORTICAL FUNCTION AND SEX DIFFERENCES IN ACQUISITION AND EXTINCTION OF ACTIVE AVOIDANCE BEHAVIOR IN THE RAT. 104457 13-04
- 4-BROMO-2,5 DIMETHOXYPHENYLISOPROPYLAMINE, A NEW CENTRALLY ACTIVE AMPHETAMINE ANALOG. 105535 13-07
- THE INFLUENCE OF PSYCHOPHARMACOLOGICALLY ACTIVE SUBSTANCES ON VARIOUS MODELS OF AN INFLAMMATORY REACTION. 118201 13-05
- INFLUENCE OF ACTIVE BIOLOGICAL TREATMENT ON THE TIME OF DURATION OF REMISSION IN MANIC-DEPRESSIVE PSYCHOSIS. 122942 13-09
- ACTIVITIES**
- HYDROXYINDOLE-O-METHYLTRANSFERASE VI: INHIBITORY ACTIVITIES OF SUBSTITUTED BENZOYLTRYPTAMINES AND BENZENESULFONYLTRYPTAMINES. 082762 13-01
- CATECHOL-O-METHYLTRANSFERASE AND MONOAMINE OXIDASE ACTIVITIES IN RAT SUBMAXILLARY GLAND: EFFECTS OF LIGATION, SYMPATHECTOMY AND SOME DRUGS. 099645 13-03
- CORRELATION OF CHEMICAL STRUCTURE OF PHENOTHIAZINES WITH THEIR CORONARY DILATOR AND ANTIARRHYTHMIC ACTIVITIES. 120929 13-03
- ACTIVITY**
- IMPORTANCE OF NORADRENALINE FOUND IN A FUNCTIONAL POOL IN MAINTAINING SPONTANEOUS LOCOMOTOR ACTIVITY IN RATS. 077424 13-04
- EFFECT OF TETRABENAZINE AND ALPHA-METHYL-M-TYROSINE ON EXPLORATORY ACTIVITY AND BRAIN CATECHOLAMINES IN RATS. 077425 13-04
- EFFECT OF DELTA1-TETRAHYDROCANNABINOL ON ATPASE ACTIVITY OF RAT LIVER MITOCHONDRIA. 077870 13-03
- INSECTICIDE INHIBITION OF NA-K-ATPASE ACTIVITY. 077871 13-03
- EFFECTS OF MAGNESIUM PEMOLINE IN DIMETHYLSULFOXIDE ON REVERSAL LEARNING, MOTOR ACTIVITY, AND WATER INTAKE. 079611 13-04
- SYNTHESIS AND ANTICONVULSANT ACTIVITY OF SUBSTITUTED 2-THIOQUINAZOLIN-4-ONES I: PRELIMINARY STUDIES. 080630 13-02
- ACTIVITY OF DELTA8- AND DELTA9-TETRAHYDROCANNABINOL AND RELATED COMPOUNDS IN THE MOUSE. 082707 13-03
- THE EFFECT OF PARA-CHLOROPHENYLALANINE ON SPONTANEOUS LOCOMOTOR ACTIVITY IN THE RAT. 082758 13-14
- SPONTANEOUS ACTIVITY AND WATER INTAKE IN THE RAT UNDER THE EFFECTS OF SCOPOLAMINE HBR AND MAGNESIUM PEMOLINE. 086186 13-04
- EFFECT OF LEVOMEPROMAZINE ON HIGHER NERVOUS ACTIVITY IN SCHIZOPHRENIA. 086571 13-07
- PROGESTERONE ESTROGEN INTERACTIONS IN THE CONTROL OF ACTIVITY WHEEL RUNNING IN THE FEMALE RAT. 086683 13-14
- STRUCTURE ACTIVITY RELATIONSHIPS OF NORMEPERIDINE CONGENERS ON CHOLINESTERASE SYSTEMS IN VITRO AND ANALGESIA IN VIVO. 086822 13-03
- PROTEIN METABOLISM AND AMINO ACID ACCUMULATION IN THE RAT SUBMAXILLARY GLAND DURING REDUCED SYMPATHETIC ACTIVITY. 087123 13-03
- A SIMPLE METHOD FOR MEASURING THE GENERAL ACTIVITY OF RATS IN BRAIN STIMULATION AND OTHER STUDIES. 087289 13-06
- EFFECT OF ACUTE AND CHRONIC ADMINISTRATION OF ETHANOL ON THE 5-HYDROXYTRYPTAMINE TURNOVER AND TRYPTOPHAN HYDROXYLASE ACTIVITY OF THE MOUSE BRAIN. 088284 13-03
- DAILY RHYTHMIC CHANGES IN HEPATIC PHENYLALANINE HYDROXYLASE ACTIVITY: ROLE OF DIETARY PHENYLALANINE. 088557 13-03
- RELATION OF HYPERMAGNEAEMIA TO ACTIVITY AND NEUROLEPTIC DRUG THERAPY IN SCHIZOPHRENIC STATES. 088729 13-13
- CYCLOHEXIMIDE: ITS EFFECTS ON ACTIVITY ARE DISSOCIABLE FROM ITS EFFECTS ON MEMORY. 089015 13-04
- SEX DIFFERENCES IN BRAIN DEOXYRIBONUCLEIC ACID AND CHOLINESTERASE ACTIVITY IN RATS. 089332 13-04
- MONOIODOSULIN: DEMONSTRATION OF ITS BIOLOGICAL ACTIVITY (UNPUBLISHED PAPER). 092898 13-06
- NOREPINEPHRINE CONTAINING NEURONS: SPONTANEOUS ACTIVITY DURING WAKING AND SLEEPING IN FREELY BEHAVING CATS (UNPUBLISHED PAPER). 092976 13-04
- RED NUCLEUS FAST ACTIVITY AND SIGNS OF PARADOXICAL SLEEP APPEARING DURING THE EXTINCTION OF EXPERIMENTAL SEIZURES. 098151 13-03
- INHIBITION OF PENTETRAZOL INDUCED HYPERSYNCHRONOUS ACTIVITY IN THE THALAMOCORTICAL SYSTEM BY ETHOSUXIMIDE. 098297 13-04
- EFFECT OF SODIUM NITRITE ON MONOAMINE OXIDASE ACTIVITY IN RAT LIVER AND BRAIN. 100100 13-03
- THE EFFECTS OF CHRONIC ADMINISTRATION OF SOME CHOLINERGIC AND ADRENERGIC DRUGS ON THE ACTIVITY OF CHOLINE ACETYLTRANSFERASE IN THE OPTIC LOBES OF THE CHICK BRAIN. 100219 13-03
- EFFECT OF LITHIUM CITRATE ON ADRENO-CORTICAL ACTIVITY IN MANIC-DEPRESSIVE ILLNESS. 100317 13-09
- EVALUATION OF THE ANTIPSYCHOTIC ACTIVITY OF AN INDOLE ANALOGUE, AL-1612. 100540 13-08
- INTRAVENOUS DIAZEPAM IN THE TREATMENT OF PROLONGED SEIZURE ACTIVITY IN NEONATES AND INFANTS. 101560 13-11
- METABOLISM AND ANTICONVULSANT ACTIVITY OF DIAZEPAM IN GUINEA-PIGS. 101701 13-03
- EFFECTS OF LONG-TERM RESERPINE TREATMENT ON BRAIN TYROSINE HYDROXYLASE AND BEHAVIORAL ACTIVITY. 101718 13-04
- OPTICAL ACTIVITY OF LSD DNA MIXTURES. 101769 13-03
- CONSUMMATORY BEHAVIOR DURING TOLERANCE TO AND WITHDRAWAL FROM CHRONIC DEPRESSION OF CHOLINESTERASE ACTIVITY. 102094 13-04
- STIMULUS CONTROL DURING CHRONIC REDUCTION OF CHOLINESTERASE ACTIVITY. 102095 13-04
- HOMOSEXUAL ACTIVITY IN MALE RATS AFTER P-CHLOROPHENYLALANINE: EFFECTS OF HYPOPHYSECTOMY AND TESTOSTERONE. 102096 13-04
- INCREASES IN SPONTANEOUS ACTIVITY FOLLOWING INTERMITTENT IMIPRAMINE ADMINISTRATION. 102196 13-04
- EFFECT OF FENFLURAMINE ON THE ELECTRICAL ACTIVITY OF THE HYPOTHALAMIC FEEDING CENTERS. 102391 13-03

# Subject Index

- THE DIFFERENTIAL EFFECTS OF METHAMPHETAMINE UPON VISUAL EXPLORATORY BEHAVIOR AND SPONTANEOUS MOTOR ACTIVITY IN RHESUS MONKEYS (MACACA-MULATTA). 103040 13-04
- ACQUISITION OF NEW RESPONSES BY RATS DURING CHRONIC DEPRESSION OF ACETYLCHOLINESTERASE ACTIVITY. 103461 13-04
- EFFECTS OF BENZODIAZEPINES ON SPONTANEOUS ELECTRICAL ACTIVITY OF SUBCORTICAL AREAS IN BRAIN OF CAT. 103649 13-03
- 6-BETA-HYDROXY-DELTA(1) TETRAHYDROCANNABINOL SYNTHESIS AND BIOLOGICAL ACTIVITY. 103707 13-01
- EFFECTS OF CHOLINOLYTIC AGENTS ON BEHAVIOR FOLLOWING DEVELOPMENT OF TOLERANCE TO LOW CHOLINESTERASE ACTIVITY. 103949 13-04
- DIFFERENTIAL ACTIVITY OF SOME PSYCHOTROPIC DRUGS AS A FUNCTION OF EMOTIONAL LEVEL IN ANIMALS. 103952 13-04
- SPECIES AND AGE DIFFERENCES IN THE ACTIVITY OF ISOCARBOXAZID HYDROLYSING ENZYME. 104324 13-03
- ANALGESIC ACTIVITY OF ORAL AND INTRAMUSCULAR PROFADOL. 104366 13-11
- THE INFLUENCE OF BARBITURATES ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCI. 104375 13-03
- INFLUENCE OF CHLORDIAZEPoxide ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCI. 104376 13-03
- PLASMA MONOAMINE OXIDASE ACTIVITY IN REGULARLY MENSTRUATING WOMEN AND IN AMENORRHEIC WOMEN RECEIVING CYCLIC TREATMENT WITH ESTROGENS AND A PROGESTIN. 104616 13-13
- MEASUREMENT OF PHARMACOLOGICAL DEPRESSION OF EXPLORATORY ACTIVITY IN MICE. A CONTRIBUTION TO THE PROBLEM OF TIME ECONOMY AND SENSITIVITY. 104704 13-06
- ANTAGONISM OF INTRACEREBRALLY INDUCED NICOTINIC CONVULSIONS IN MICE: A METHOD FOR MEASURING THE CENTRAL ANTINICOTINIC ACTIVITY OF CNS ACTING AGENTS. 104807 13-06
- THE INFLUENCE OF SOME SELECTED PSYCHOACTIVE DRUGS ON THE SPONTANEOUS CONTRACTILE ACTIVITY OF THE ISOLATED MURINE PORTAL VEIN. 104964 13-03
- RELAXATION TRANSFER IN ELECTRODERMAL ACTIVITY AS AFFECTED BY A NEW MINOR TRANQUILIZER (4306CB). 105006 13-14
- ACTIVITY OF MAJOR ANALGESICS ON MOTOR NOCICEPTIVE RESPONSES IN DECEREBRATE MICE. 105010 13-03
- THE EFFECTS OF A MARIJUANA EXTRACT ON THE GENERAL MOTOR ACTIVITY OF THE SQUIRREL MONKEY. 105077 13-04
- STRUCTURE ACTIVITY RELATIONSHIP OF 5-TRIAZOL-2-O 1,4 BENZODIAZEPINES IN CENTRAL NERVOUS DEPRESSANT ACTION. 105390 13-02
- BENZODIAZEPINE ACTIVITY ON SOME ASPECTS OF BEHAVIOR. 105400 13-04
- EFFECT OF IN VIVO ETHANOL ADMINISTRATION ON ADENOSINETRIPHOSPHATASE ACTIVITY OF SUBCELLULAR FRACTIONS OF MOUSE BRAIN AND LIVER. 105518 13-03
- EFFECTS OF LITHIUM ON BRAIN ADENYL CYCLASE ACTIVITY. 105707 13-03
- N-SUBSTITUTED ANALOGUES OF NEUROLEPTICS OF THE OCTOCLOTHEPIN SERIES: RELATIONS BETWEEN STRUCTURE AND ACTIVITY. 105824 13-02
- ACUTE EFFECT OF DIMETHACRINE (50MG), MEFEXAMIDE (200MG), AND DIXYRAZINE (25MG) ON HIGHER NERVOUS ACTIVITY IN MAN. 105915 13-14
- CENTRAL ANTICHOLINERGIC ACTIVITY OF JB-336. 105993 13-03
- DIFFERENT REACTION OF FOCAL AND DIFFUSE EPILEPTIC EEG ACTIVITY TO PSILOCYBIN. 106001 13-13
- THE EFFECTS OF ESERINE AND ATROPINE ON THE EPILEPTIFORM ACTIVITY OF CHRONICALLY ISOLATED CORTEX. 106065 13-03
- TRYPTOPHAN PYRROLASE ACTIVITY AFTER CHRONIC ADMINISTRATION OF RESERPINE AND APOMORPHINE IN RATS. 106096 13-03
- EFFECTS OF ISOPROTERENOL ON RAT PLASMA CREATINE PHOSPHOKINASE ACTIVITY. 106150 13-03

# Psychopharmacology Abstracts

- EFFECT OF ESERINE INJECTED INTRAVENTRICULARLY ON BEHAVIOUR AND ON ACTIVITY OF CHOLINESTERASE IN SOME STRUCTURES OF THE CEREBRAL VENTRICLES OF THE CONSCIOUS CAT. 106424 13-04
- ASPECTS OF THE GASTRIC ACID ANTISECRETORY ACTIVITY OF 3,3-DIMETHYL-1-(3-METHYLAMINOPROPYL)-1-PHENYLPHTHALAN: A BLOCKER OF NOREPINEPHRINE UPTAKE. 106526 13-03
- PSYCHOPHYSIOLOGIC CORRELATES OF MASH ACTIVITY IN MAN. 106761 13-14
- ANTICONVULSANT ACTIVITY AND BRAIN LEVELS OF DIAZEPAM AND ITS METABOLITES IN MICE. 107158 13-03
- THE INFLUENCE OF LYSERGIC ACID DIETHYLAMIDE ON THE ACTIVITY OF SOLITARY NEURONS OF SOME CEREBRAL REGIONS. 107722 13-03
- REDUCTION OF CATECHOL-O-METHYLTRANSFERASE ACTIVITY BY CHRONIC L-DOPA THERAPY. 107995 13-15
- CHLORPROMAZINE INDUCED HYPOTHERMIA AND INCREASED PLASMA CREATINE PHOSPHOKINASE ACTIVITY. 108280 13-03
- FAILURE TO AFFECT TISSUE RESERPINE CONCENTRATIONS BY ALTERATION OF ADRENERGIC NERVE ACTIVITY. 108399 13-03
- PSYCHOPHARMACOLOGICAL ESTROGEN ACTIVITY. 108570 13-16
- DIFFERENT EFFECT OF CHLORPROMAZINE ON THE ACTIVITY OF CRYSTALLINE LACTIC DEHYDROGENASE ISOENZYMES. 108717 13-03
- MODIFICATION OF THE ANTINOCICEPTIVE ACTIVITY OF MORPHINE BY CENTRALLY ADMINISTERED OUABAIN AND DOPAMINE. 110188 13-03
- THE EFFECTS OF ACUTELY ADMINISTERED FENFLURAMINE ON ACTIVITY AND EATING BEHAVIOUR. 110191 13-04
- THE EFFECT OF METHYLPHENIDATE ON ATTENTIVE BEHAVIOR AND AUTONOMIC ACTIVITY IN HYPERACTIVE CHILDREN. 111147 13-14
- ON THE RELATIONSHIP BETWEEN THE CHEMICAL STRUCTURE AND PSYCHOTROPIC ACTIVITY AMONG DERIVATIVES OF BENZODIOXANE AND TRIMETHYLBENZOIC AND TRIMETHOXYBENZOIC ACIDS. 111291 13-03
- EFFECTS OF AMPHETAMINE ON SINGLE CELL ACTIVITY IN A CATECHOLAMINE NUCLEUS, THE LOCUS COERULEUS. 111661 13-03
- ON THE SELECTIVE EFFECT OF THE NEW ANTIDEPRESSANT FLUORACIZINE ON THE ACTIVITY OF PYRIDINE DEHYDROGENASES IN THE BRAIN OF RATS. 111703 13-03
- MUTAGENIC ACTIVITY OF PHENOTHIAZINE AND OTHER DRUGS. 113434 13-03
- EFFECT OF CHLORPROMAZINE AND PHENAMINE ON THE BASAL METABOLISM AND CONDITIONED REFLEX ACTIVITY IN RATS UNDER STRESS CONDITIONS. 113521 13-03
- CHANGES IN THE ACTIVITY OF OXIDATIVE ENZYMES IN THE BRAIN OF RATS UNDER THE EFFECT OF TRIFLUOPERAZINE (STELAZINE). 113522 13-03
- ON THE FUNCTIONAL RELATIONSHIP BETWEEN PHYSIOLOGICAL AND PENTETRAZOL INDUCED RHYTHMIC ACTIVITY IN THE EEG OF UNRESTRAINED RATS. 113567 13-03
- CHOLINESTERASE ACTIVITY IN THE ERYTHROCYTES AND BLOOD PLASMA OF SCHIZOPHRENIC PATIENTS DURING TREATMENT WITH DIMETHYLOAMINOETHANOLIC ESTERS. 118204 13-08
- RAT STRAIN DIFFERENCES IN THE ACTIVITY OF HEPATIC MICROSOMAL ENZYMES. 118564 13-03
- THE EFFECT OF AMANTADINE ON SPONTANEOUS LOCOMOTOR ACTIVITY IN THE RAT. 120820 13-03
- PROLONGED EFFECTS OF RESERPINE ADMINISTRATION ON ADRENOCEPTOR ACTIVITY IN DOGS. 122548 13-03
- EFFECTS OF NIGRAL LESION AND CHLORPROMAZINE TREATMENT ON TYROSINE HYDROXYLASE ACTIVITY IN CORPUS-STRIATUM OF THE RAT. 123281 13-03
- THE INFLUENCE OF HARMINE ON THE BIOELECTRICAL ACTIVITY IN THE RAT HIPPOCAMPUS. 124106 13-03
- THE INFLUENCE OF HARMINE ON BIOELECTRIC ACTIVITY IN CERVEAU ISOLE RATS. 125071 13-03
- AMPHETAMINE TETRAZOLIUM REDUCTASE ACTIVITY IN BRAIN. 125411 13-03

## ACUTE

- BLOOD VOLUME FOLLOWING ACUTE ETHYL-ALCOHOL INGESTION IN DOGS. 078165 13-03
- A PILOT STUDY ON THE USE OF AL-1021 IN THE TREATMENT OF ACUTE SCHIZOPHRENICS. 078944 13-08
- CHLORPROTHIXENE ENFORCED SLEEP FOR NEWLY ADMITTED PATIENTS WITH ACUTE MENTAL DECOMPENSATION. 078951 13-14
- EFFECTS OF CHRONIC AND ACUTE MORPHINE ADMINISTRATION ON ONE-WAY AVOIDANCE TRAINING. 079769 13-14
- ACUTE TOLERANCE TO THE HYPOTHERMIC EFFECT OF MARIHUANA IN THE RAT. 085487 13-13
- A DOUBLE-BLIND COMPARISON OF MOLIDONE AND TRIFLUOPERAZINE IN THE TREATMENT OF ACUTE SCHIZOPHRENIA. 087033 13-08
- INTERACTION AND ACUTE CROSS-TOLERANCE BETWEEN ETHANOL AND HEXOBARBITONE IN THE RAT. 087344 13-04
- EFFECT OF ACUTE AND CHRONIC ADMINISTRATION OF ETHANOL ON THE 5-HYDROXYTRYPTAMINE TURNOVER AND TRYPTOPHAN HYDROXYLASE ACTIVITY OF THE MOUSE BRAIN. 088284 13-03
- ACUTE PHENOTHIAZINE INTOXICATION IN CHILDREN. 088512 13-15
- EFFECTS OF ACUTE AND CHRONIC AMPHETAMINE INTOXICATION ON BRAIN CATECHOLAMINES IN THE GUINEA-PIG. 088539 13-03
- EFFECTS OF ACUTE AND CHRONIC ETHANOL ADMINISTRATION ON RIBOSOMAL PROTEIN SYNTHESIS IN MOUSE BRAIN AND LIVER. 088558 13-03
- ACUTE TOXICITY OF DELTA9-TETRAHYDROCANNABINOL IN RATS AND MICE. 088625 13-05
- RHE EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CHLORPROMAZINE ON THE ACQUISITION AND EXTINCTION OF POSITIVELY REINFORCED OPERANT RESPONSES. 088679 13-04
- COMPARISON BETWEEN ACUTE AND CHRONIC ADMINISTRATION OF ETHYL-ALCOHOL ON THE DEVELOPMENT OF TOLERANCE TO PENTOBARBITAL. 088732 13-03
- RESIN HEMOPERFUSION: A NEW TREATMENT FOR ACUTE DRUG INTOXICATION. 089039 13-16
- EFFICACY OF INTRAVENOUSLY USED PROMAZINE IN ACUTE PSYCHOMOTOR AGITATION. 089307 13-11
- ACUTE MYOGLOBINURIA ASSOCIATED WITH HEROIN ADDICTION. 090662 13-15
- ACUTE ORAL TOXICITY OF CANNABINIDS IN VARIOUS SPECIES (UNPUBLISHED PAPER). 093082 13-05
- EVALUATING CHANGES IN SYMPTOMS DURING ACUTE ALCOHOLIC WITHDRAWAL. 097378 13-11
- ACUTE PSYCHOTIC STATES. 098230 13-09
- ACTIONS OF MORPHINE AND NARCOTIC ANTAGONIST ANALGESICS ON THE SPINAL CORD OF ACUTE AND CHRONIC SPINAL RATS. 098305 13-03
- THYROID HORMONE BINDING PROTEINS AND ACUTE PSYCHIATRIC ILLNESS. 098733 13-14
- ACUTE ADVERSE REACTIONS TO LSD IN CLINICAL AND EXPERIMENTAL USE IN THE UNITED KINGDOM. 099307 13-12
- ROLE OF BRAIN ACETYLCHOLINE AND DOPAMINE IN ACUTE NEUROTIC EFFECTS OF DDT. 099652 13-05
- ACUTE INTOXICATION BY MEPROBAMATE: CLINICAL AND MEDICO-LEGAL ASPECTS. 100404 13-15
- COMPARATIVE EVALUATION OF DIAZEPAM (VALIUM) AND PHENOBARBITAL: FOR THE RELIEF OF ANXIETY RELATED SYMPTOMS IN PATIENTS HOSPITALIZED FOR ACUTE MYOCARDIAL INFARCTION. 100626 13-14
- LITHIUM SALTS AS SEDATIVES: AN INVESTIGATION INTO THE POSSIBLE EFFECT OF LITHIUM ON ACUTE ANXIETY. 100811 13-10
- PHYSOSTIGMINE THERAPY IN ACUTE TRICYCLIC ANTIDEPRESSANT POISONING. 101864 13-13
- COMPARATIVE EFFECTS OF LITHIUM AND CHLORPROMAZINE IN THE TREATMENT OF ACUTE MANIC STATES. 101897 13-09

- THE ACUTE EFFECTS OF ESTROGEN AND PROGESTERONE ON THE MONOAMINE LEVELS OF THE BRAIN OF OVARECTOMIZED RATS. 104790 13-03
- THE TREATMENT OF ACUTE ALCOHOLISM IN A SMALL RURAL HOSPITAL. 105040 13-17
- A CONTROLLED STUDY OF LITHIUM VS. CHLORPROMAZINE IN ACUTE SCHIZOPHRENICS. 105885 13-08
- ACUTE EFFECT OF DIMETHACRINE (50MG), MEPEXAMIDE (200MG), AND DUXYRAZINE (25MG) ON HIGHER NERVOUS ACTIVITY IN MAN. 105915 13-14
- ACUTE EFFECT OF MEDAZEPAM (15MG), OXAZEPAM (20MG), AND DIAZEPAM (10MG) ON VERBAL ASSOCIATIONS. 105916 13-14
- ACUTE EFFECT OF CHLORPROTHIXENE (5MG), CAFFEINE (200MG) AND THE COMBINATION OF BOTH DRUGS ON VERBAL ASSOCIATIONS. 105997 13-14
- THE EFFECTS OF SUBACUTE ADMINISTRATION OF TRIIODOTHYRONINE (T3) ON THE ACUTE TOXICITY OF LITHIUM IN THE RAT. 107864 13-05
- A COMPARISON OF CHLORPROTHIXENE AND HALOPERIDOL IN ACUTE SCHIZOPHRENIA. 108838 13-08
- CONTROLLED TRIAL OF PENFLURIDOL IN ACUTE PSYCHOSIS. 111694 13-09
- ACUTE DIURETIC RESPONSE TO GUANETHIDINE AND RESERPINE. 122536 13-03
- EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CANNABIS-SATIVA AND (-)DELTA9-TRANS-TETRAHYDROCANNABINOL ON THE BEHAVIOR OF RATS IN AN OPEN-FIELD ARENA. 125251 13-04
- PARTICIPATION OF LIVER FUNCTION IN THE ACUTE TOLERANCE TO PENTOBARBITAL INDUCED AFTER SHORT-TERM INFUSION. 125326 13-03
- ACUTE ORGANIC BRAIN SYNDROME WITH PROPRANOLOL. 125503 13-15
- ACYL**
- ENHANCEMENT OF FATTY ACID OXIDATION AND MEDIUM CHAIN FATTY ACYL COENZYME A SYNTHETASE BY ADENINE NUCLEOTIDES IN RAT HEART HOMOGENATES. 089434 13-03
- STUDIES OF THE SPONTANEOUS MOVEMENT OF ANIMALS BY THE HOLE CROSS TEST; EFFECT OF 2-DIMETHYLAminoETHANOL AND ITS ACYL ESTERS ON THE CENTRAL NERVOUS SYSTEM. 120930 13-03
- ADAPTATION**
- BIOSYNTHESIS OF ADRENAL CATECHOLAMINES DURING ADAPTATION TO REPEATED IMMOBILIZATION STRESS (UNPUBLISHED PAPER). 093553 13-03
- INFLUENCE OF AMINAZINE ON THE ADAPTATION OF THE CARDIOVASCULAR SYSTEM IN EPILEPTIC PATIENTS. 102830 13-17
- ADDICT**
- MANAGING THE PREGNANT ADDICT AND HER BABY. 078152 13-15
- POSTOPERATIVE MANAGEMENT OF A NARCOTIC ADDICT. 104025 13-17
- THE PSYCHOTIC HEROIN ADDICT. 111517 13-14
- ADDICTING**
- ACQUISITION OF CONDITIONED AVOIDANCE RESPONSE IN RATS UNDER THE INFLUENCE OF ADDICTING DRUGS. 110182 13-04
- ADDICTION**
- EFFECTS OF SEPTAL AREA AND CINGULATE CORTEX LESIONS ON OPIATE ADDICTION BEHAVIOR IN RATS. 085333 13-04
- SECONDARY GLUTETHIMIDE ADDICTION IN ENDOGENOUS ATYPICAL PSYCHOSES. 087021 13-15
- ACUTE MYOGLOBINURIA ASSOCIATED WITH HEROIN ADDICTION. 090662 13-15
- DELIRE-A-DEUX IN THE COURSE OF METHYLPHENIDATE ADDICTION. 096114 13-15
- WITHDRAWAL DELIRIUM IN CHLORMETHIAZOLE ADDICTION. 126041 13-15
- ADDICTS**
- RAT DRUG ADDICTS. 086825 13-04
- METHADONE AND L-METHADYL ACETATE: USE IN MANAGEMENT OF NARCOTICS ADDICTS. 091592 13-07
- COMPARISON OF PRAZEPAM AND PLACEBO IN THE TREATMENT OF CONVALESCING NARCOTIC ADDICTS. 100259 13-14

## ADENINE

ENHANCEMENT OF FATTY ACID OXIDATION AND MEDIUM CHAIN FATTY ACYL COENZYME A SYNTHETASE BY ADENINE NUCLEOTIDES IN RAT HEART HOMOGENATES.

089434 13-03

## ADENOSINE

MODIFICATION BY PSYCHOTROPIC DRUGS OF THE CYCLIC ADENOSINE MONOPHOSPHATE RESPONSE TO NOREPINEPHRINE IN RAT BRAIN.

082864 13-03

NEUROENDOCRINE CONTROL OF THE ADENOSINE 3,5 - MONOPHOSPHATE SYSTEM OF BRAIN AND PINEAL GLAND. (UNPUBLISHED PAPER).

099967 13-03

EFFECT OF NOREPINEPHRINE ON THE CONCENTRATION OF ADENOSINE 3,5 MONOPHOSPHATE OF RAT PINEAL GLAND IN ORGAN CULTURE. (UNPUBLISHED PAPER).

106059 13-03

PSYCHOPHARMACOLOGICAL AGENTS AND THE ADENOSINE 3,5 MONOPHOSPHATE SYSTEM OF RAT BRAIN. (UNPUBLISHED PAPER).

106060 13-03

A METHOD FOR DETECTING INTRACELLULAR CYCLIC ADENOSINE MONOPHOSPHATE BY IMMUNOFLOURESCENCE. (UNPUBLISHED PAPER).

107113 13-06

EFFECTS OF PHENOTHIAZINE TRANQUILIZERS ON THE CYCLIC 3,5 ADENOSINE MONOPHOSPHATE SYSTEM OF RAT BRAIN.

107123 13-03

STUDIES ON THE FUNCTIONAL ROLE OF ADENOSINE 3,5 MONOPHOSPHATE, HISTAMINE, AND PROSTAGLANDIN E<sub>1</sub> IN THE CENTRAL NERVOUS SYSTEM.

120949 13-14

## ADENOSINETRIPHOSPHATASE

EFFECT OF IN VIVO ETHANOL ADMINISTRATION ON ADENOSINETRIPHOSPHATASE ACTIVITY OF SUBCELLULAR FRACTIONS OF MOUSE BRAIN AND LIVER.

105518 13-03

## ADENYL

EFFECTS OF LITHIUM ON BRAIN ADENYL CYCLASE ACTIVITY.

105707 13-03

## ADIPOSE

CHLORPROMAZINE INDUCED HISTAMINE RELEASE AND LIPOLYSIS IN CANINE ADIPOSE TISSUE IN SITU.

099647 13-03

## ADJUSTMENT

THE INFLUENCE OF PROPHYLACTIC LITHIUM TREATMENT ON THE MARITAL ADJUSTMENT OF MANIC-DEPRESSIVES AND THEIR SPOUSES.

100314 13-09

## ADMINISTER

ATTEMPT TO ADMINISTER VECTOR CARDIOGRAPHY IN SCHIZOPHRENIA IN AN EVALUATION OF THE QRS COMPLEX.

118205 13-08

## ADMINISTERED

THE EFFECTS OF PERIPHERALLY ADMINISTERED 6-HYDROXYDOPAMINE ON RAT BRAIN MONOAMINE TURNOVER.

086810 13-03

THE EFFECTS OF CENTRALLY ADMINISTERED CHLORPROMAZINE ON TEMPERATURE REGULATION IN THE HAMSTER.

089098 13-03

SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA, A STUDY OF THE ADRENOCORTICAL RESPONSE TO INTRAVENOUSLY ADMINISTERED INSULIN AND ACTH.

091370 13-08

ACTIONS AND METABOLISM OF HEROIN ADMINISTERED BY CONTINUOUS INTRAVENOUS INFUSION TO MAN.

100417 13-13

DIFFERENT EFFECTS OF TRIFLUOPERAZINE WHEN ADMINISTERED DAYTIME OR NIGHT.

107755 13-08

MODIFICATION OF THE ANTINOCICEPTIVE ACTIVITY OF MORPHINE BY CENTRALLY ADMINISTERED OUABAIN AND DOPAMINE.

110188 13-03

THE EFFECTS OF ACUTELY ADMINISTERED FENFLURAMINE ON ACTIVITY AND EATING BEHAVIOUR.

110191 13-04

## ADMINISTRATION

COPULATORY BEHAVIOR OF MALE RATS FOLLOWING RESERPINE ADMINISTRATION.

073485 13-04

COMBINED ADMINISTRATION OF THIORIDAZINE AND NICOTINIC ACID IN THE TREATMENT OF GERIATRIC PATIENTS.

078942 13-11

EFFECTS OF CHRONIC AND ACUTE MORPHINE ADMINISTRATION ON ONE-WAY AVOIDANCE TRAINING.

079769 13-14

EFFECT OF ACTH ON EXTINCTION OF REWARDED BEHAVIOUR IS BLOCKED BY PREVIOUS ADMINISTRATION OF ACTH.

080109 13-04

DEPRESSION OF BEHAVIOR AND THE BRAIN CONTENT OF ALPHA-METHYLNOREPINEPHRINE AND ALPHA-METHYLDOPAMINE FOLLOWING THE ADMINISTRATION OF ALPHA-METHYLDOPA.

082757 13-04

CHANGES IN NOREPINEPHRINE TURNOVER IN RAT BRAIN DURING CHRONIC ADMINISTRATION OF IMIPRAMINE AND PROTRIPTYLINE: A POSSIBLE EXPLANATION FOR THE DELAY IN ONSET OF CLINICAL ANTIDEPRESSANT EFFECTS.

086251 13-03

FLUORESCENCE MICROSCOPIC STUDY ON RAT BRAIN NEURONS AFFECTED BY HARMALINE ADMINISTRATION.

087212 13-03

EFFECT OF ACUTE AND CHRONIC ADMINISTRATION OF ETHANOL ON THE 5-HYDROXYTRYPTAMINE TURNOVER AND TRYPTOPHAN HYDROXYLASE ACTIVITY OF THE MOUSE BRAIN.

088284 13-03

EFFECTS OF ACUTE AND CHRONIC ETHANOL ADMINISTRATION ON RIBOSOMAL PROTEIN SYNTHESIS IN MOUSE BRAIN AND LIVER.

088558 13-03

NEONATAL ADMINISTRATION OF ANDROSTENEDIONE, TESTOSTERONE OR TESTOSTERONE PROPIONATE: EFFECTS ON OVULATION, SEXUAL RECEPTIVITY AND AGGRESSIVE BEHAVIOR IN FEMALE MICE.

088581 13-04

DEMONSTRATION OF 3,4 DIHYDROXYBENZOIC(14C) ACID AND (14C)VANILIC ACID AFTER ADMINISTRATION OF (14C)NORADRENALINE IN THE RAT.

088637 13-03

MARIJUANA: IMPORTANCE OF THE ROUTE OF ADMINISTRATION.

088639 13-03

THE EFFECT OF 5-HYDROXYTRYPTOPHAN AND RESERPINE ADMINISTRATION ON THE LEVEL OF SODIUM, POTASSIUM, CALCIUM, MAGNESIUM AND CHLORIDE IN FIVE DISCRETE AREAS OF THE RABBIT BRAIN.

088665 13-03

RHE EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CHLORPROMAZINE ON THE ACQUISITION AND EXTINCTION OF POSITIVELY REINFORCED OPERANT RESPONSES.

088679 13-04

COMPARISON BETWEEN ACUTE AND CHRONIC ADMINISTRATION OF ETHYL-ALCOHOL ON THE DEVELOPMENT OF TOLERANCE TO PENTOBARBITAL.

088732 13-03

EFFECT OF LITHIUM ADMINISTRATION ON RNA METABOLISM IN RAT BRAIN.

096013 13-03

COMBINED ADMINISTRATION OF THIORIDAZINE, NICOTINIC ACID, AND FLUOXYMESTERONE IN THE TREATMENT OF GERIATRIC PATIENTS.

098601 13-13

COMBINED INTRAMUSCULAR ADMINISTRATION OF DEPOY FLUPHENAZINE AND BENZTROPINE MESYLATE IN CHRONIC SCHIZOPHRENIC PATIENTS.

098602 13-08

THE CENTRAL METABOLISM OF SEROTONIN IN THE CAT DURING INSOMNIA: A NEUROPHYSIOLOGICAL AND BIOCHEMICAL STUDY AFTER ADMINISTRATION OF P-CHLOROPHENYLALANINE OR DESTRUCTION OF THE RAPHE SYSTEM.

099261 13-03

METABOLIC ASPECTS OF AMINO ACID LOADING AND DRUG ADMINISTRATION IN ANIMAL STUDIES. AFFECTIVE ILLNESSES.

099335 13-03

PERSISTENT INCREASE IN BRAIN SEROTONIN TURNOVER AFTER CHRONIC ADMINISTRATION OF LSD IN THE RAT.

099828 13-03

PLASMA AND BRAIN LITHIUM LEVELS AFTER LITHIUM CARBONATE AND LITHIUM CHLORIDE ADMINISTRATION BY DIFFERENT ROUTES IN RATS.

099852 13-03

A COMPARISON BETWEEN CHLORPROMAZINE AND THIOTHIXENE IN A VETERANS ADMINISTRATION HOSPITAL POPULATION.

099887 13-08

THE EFFECTS OF CHRONIC ADMINISTRATION OF SOME CHOLINERGIC AND ADRENERGIC DRUGS ON THE ACTIVITY OF CHOLINE ACETYLTRANSFERASE IN THE OPTIC LOBES OF THE CHICK BRAIN.

100219 13-03

INCREASE OF ETHANOL, MEPROBAMATE AND PENTOBARBITAL METABOLISM AFTER CHRONIC ETHANOL ADMINISTRATION IN MAN AND IN RATS.

100792 13-13

ADMINISTRATION OF MARIJUANA TO HEAVY AND CASUAL MARIJUANA USERS.

100821 13-14

PROPHYLACTIC ADMINISTRATION OF LITHIUM CARBONATE IN AFFECTIVE PSYCHOSES.

101311 13-09

LACK OF EFFECT OF FOLIC ACID ADMINISTRATION ON CEREBRAL METABOLISM.

101764 13-05

- INHIBITION OF NORMAL GROWTH BY CHRONIC ADMINISTRATION OF  
DELTA<sup>9</sup>-TETRAHYDROCANNABINOL. 101935 13-05
- URINARY EXCRETION OF PERPHENAZINE AND ITS SULFOXIDE DURING  
ADMINISTRATION IN ORAL AND LONG-ACTING INJECTABLE FORM. 102185 13-15
- EFFECTS OF CHRONIC ADMINISTRATION OF NICOTINE ON DRUG-INDUCED  
HYPNOSIS IN MICE. 102188 13-04
- INCREASES IN SPONTANEOUS ACTIVITY FOLLOWING INTERMITTENT  
IMIPRAMINE ADMINISTRATION. 102196 13-04
- LONG-TERM ADMINISTRATION OF DOXEPIN (SINEQUAN): CLINICAL AND  
LABORATORY SURVEY OF 40 PATIENTS. 102593 13-09
- BIOCHEMICAL STUDIES OF CEREBRAL SUBFRACTIONS AFTER CHRONIC  
ADMINISTRATION OF PYRIDAZINE (N MORPHOLINE 3-ETHYLAMINE 4-  
PHENYL 6-PYRIDAZINE HYDROCHLORIDE, AG-620). 102694 13-03
- EXPERIENCE WITH ADMINISTRATION OF NOYLEPTIL FOR THE TREATMENT  
OF EMOTIONAL DISORDERS AND BEHAVIORAL DISTURBANCES IN  
EPILEPTIC PATIENTS. 102795 13-11
- EFFECTS OF CHRONIC TRIFLUOPERAZINE ADMINISTRATION IN MULTIPLE  
DOSAGES ON RAT OFFSPRING BEHAVIOR. 102824 13-04
- INCREASED RESISTANCE TO EXTINCTION OF AN AVOIDANCE RESPONSE  
IN RATS FOLLOWING THE ADMINISTRATION OF HASHISH RESIN. 103951 13-04
- THE EFFECT OF STRYCHNINE ADMINISTRATION DURING DEVELOPMENT  
ON ADULT MAZE LEARNING IN THE RAT II: DRUG ADMINISTRATION  
FROM DAY 51 TO 70. 104377 13-04
- ETHYL-ALCOHOL: BLOOD LEVELS AND PERFORMANCE DECREMENTS  
AFTER ORAL ADMINISTRATION TO MAN. 104378 13-14
- THE INFLUENCE OF LOW LSD DOSE ADMINISTRATION DURING SLEEP IN  
RATS. 104429 13-04
- EFFECT OF CHRONIC ADMINISTRATION OF NICOTINE ON THE  
CONCENTRATIONS OF ADRENAL ENZYMES INVOLVED IN THE  
SYNTHESIS AND METABOLISM OF ADRENALINE. 104535 13-03
- INDUCTION OF BIZARRE BEHAVIOUR IN RATS BY P-  
CHLOROAMPHETAMINE, A SEROTONIN DEPLETOR, AFTER REPEATED  
DRUG ADMINISTRATION. 104793 13-04
- ANALYSIS OF THE ACQUISITION AND EXTINCTION OF FOOD REINFORCED  
BEHAVIOR IN RATS AFTER THE ADMINISTRATION OF  
CHLORPROMAZINE. 105012 13-04
- EFFECT OF IN VIVO ETHANOL ADMINISTRATION ON  
ADENOSINETRIPHOSPHATASE ACTIVITY OF SUBCELLULAR FRACTIONS  
OF MOUSE BRAIN AND LIVER. 105518 13-03
- MODIFICATION OF DEPRESSIVE EPISODES DURING PROPHYLACTIC  
ADMINISTRATION OF LITHIUM SALTS. 105831 13-09
- FACILITATED AGGRESSION IN THE RAT FOLLOWING 6-  
HYDROXYDOPAMINE ADMINISTRATION. (UNPUBLISHED PAPER). 106070 13-04
- TRYPTOPHAN PYRROLASE ACTIVITY AFTER CHRONIC ADMINISTRATION  
OF RESERPINE AND APOMORPHINE IN RATS. 106096 13-03
- ADMINISTRATION OF TWO OF MORE RELATED DRUGS TO INVESTIGATE  
THE EFFECT OF MOLECULAR MODIFICATION AND FORMULATION ON  
DRUG ABSORPTION, METABOLISM AND EXCRETION. 106908 13-13
- CATABOLISM OF 3H-HISTAMINE IN THE RAT BRAIN AFTER  
INTRACISTERNAL ADMINISTRATION. 107194 13-03
- THE EFFECTS OF SUBACUTE ADMINISTRATION OF TRIIODOTHYRONINE  
(T3) ON THE ACUTE TOXICITY OF LITHIUM IN THE RAT. 107864 13-05
- BEHAVIOR AND BRAIN CONTENTS OF CATECHOLAMINES IN MICE  
DURING CHRONIC ADMINISTRATION OF METHYLDOPA. 107964 13-04
- ANIMAL DISSOCIATED LEARNING AS AFFECTED BY PENTOBARBITAL  
ADMINISTRATION. 109736 13-04
- THE EFFECTS OF CHRONIC ADMINISTRATION OF ETHANOL ON STARTLE  
THRESHOLDS IN RATS. 110205 13-04
- EXPERIMENTAL CHARACTERISTICS OF SOME MANIFESTATIONS COMMON  
TO THE WITHDRAWAL SYNDROME FOLLOWING DISCONTINUANCE OF  
LONG-TERM ADMINISTRATION OF DIAZEPAM AND  
CHLORDIAZEPOXIDE. 111134 13-04
- ADRENERGIC EFFECT OF CHRONIC ADMINISTRATION OF NEUROLEPTICS  
AND ANTIDEPRESSANTS ON A MODEL OF APOMORPHINE INDUCED  
STEREOTYPY. 111135 13-04
- DRUG ADMINISTRATION SCHEDULES. 115619 13-13
- ADMINISTRATION OF NOVOCAIN IN SOME COMATOSE STATES  
FOLLOWING INTOXICATION. 118128 13-15
- PROLONGED EFFECTS OF RESERPINE ADMINISTRATION ON  
ADRENOCEPTOR ACTIVITY IN DOGS. 122548 13-03
- THE EXCRETION OF HYDROXYAMYLOBARBITONE IN MAN AFTER ORAL  
ADMINISTRATION OF AMYLOBARBITONE AND  
HYDROXYAMYLOBARBITONE. 122552 13-13
- EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CANNABIS-  
SATIVA AND (-)-DELTA<sup>9</sup>-TRANS-TETRAHYDROCANNABINOL ON THE  
BEHAVIOR OF RATS IN AN OPEN-FIELD ARENA. 125251 13-04
- DIFFERENCES IN TOLERANCE TO Mescaline PRODUCED BY PERIPHERAL  
AND DIRECT CENTRAL ADMINISTRATION. 125255 13-03
- CARDIOVASCULAR EFFECTS OF CHRONIC RESERPINE ADMINISTRATION IN  
MONGREL DOGS. 125650 13-03
- RESULTS OF ADMINISTRATION OF ANAFRANIL IN ENDOGENOUS  
DEPRESSIVE SYNDROMES. 125786 13-09
- ADMINISTRATIONS  
CONTINUED AVERSION TO SACCHARIN BY SINGLE ADMINISTRATIONS OF  
Mescaline AND D-AMPHETAMINE. 107629 13-04
- ADMINISTERED  
CENTRAL ACTION OF PHENTOLAMINE ADMINISTERED  
INTRAVENTRICULARLY IN THE RAT. 104434 13-03
- ADMISSIONS  
THE DRUG HISTORY OF PSYCHIATRIC ADMISSIONS. 107597 13-17
- ADMITTED  
OXYPERTINE AND THIOTHIXENE IN NEWLY ADMITTED SCHIZOPHRENIC  
PATIENTS. 077932 13-08
- CHLORPROTHIXENE ENFORCED SLEEP FOR NEWLY ADMITTED PATIENTS  
WITH ACUTE MENTAL DECOMPENSATION. 078951 13-14
- ADOLESCENT  
ON THE CLINICAL PICTURE OF THE SO-CALLED PSYCHOPATHIC-LIKE  
SYNDROME IN ADOLESCENT GIRLS. 102715 13-17
- ANTIANDROGEN THERAPY WITH CYPROTERONE ACETATE IN CHILD AND  
ADOLESCENT PSYCHIATRY. AN OVERVIEW OF RESULTS ACHIEVED. 125703 13-11
- ADOLESCENTS  
THE HAZARDS OF USE OF MONOAMINE OXIDASE INHIBITORS IN  
DISTURBED ADOLESCENTS. 089080 13-15
- TREATMENT WITH DIPPERON IN AN OUTPATIENT DEPARTMENT FOR  
CHILDREN AND ADOLESCENTS. 100562 13-11
- DOUBLE-BLIND COMPARATIVE STUDY OF DOXEPINE AND MEDAZEPAM IN  
ADOLESCENTS. 100605 13-10
- ADRENAL  
BIOSYNTHESIS OF ADRENAL CATECHOLAMINES DURING ADAPTATION TO  
REPEATED IMMOBILIZATION STRESS (UNPUBLISHED PAPER). 093553 13-03
- ADRENAL FUNCTION AND ALCOHOLISM: II. CATECHOLAMINES. 096452 13-13
- PHENOTHIAZINE INDUCED HYPERGLYCEMIA: RELATION TO CNS AND  
ADRENAL EFFECTS. 100221 13-03
- DRUG INTERFERENCE WITH MEASUREMENT OF ADRENAL HORMONES IN  
URINE: ANALGESICS AND TRANQUILIZER SEDATIVES. 104427 13-13
- EFFECT OF CHRONIC ADMINISTRATION OF NICOTINE ON THE  
CONCENTRATIONS OF ADRENAL ENZYMES INVOLVED IN THE  
SYNTHESIS AND METABOLISM OF ADRENALINE. 104535 13-03
- TETRAHYDROISOQUINOLINE ALKALOIDS IN THE ADRENAL MEDULLA  
AFTER PERFUSION WITH BLOOD CONCENTRATIONS OF  
(14C)ACETALDEHYDE. 108281 13-03
- INCREASED RATE OF NORADRENALINE CIRCULATION IN THE  
HYPOTHALAMUS AFTER DEMYELINATION OF THE ADRENAL GLANDS. 111704 13-03

# Subject Index

# Psychopharmacology Abstracts

## ADRENALINE

EFFECT OF CHRONIC ADMINISTRATION OF NICOTINE ON THE CONCENTRATIONS OF ADRENAL ENZYMES INVOLVED IN THE SYNTHESIS AND METABOLISM OF ADRENALINE.

104535 13-03

## ADRENALINE-LIKE

A POSSIBLE SYNAPTIC MECHANISM UNDERLYING THE SIMILAR BEHAVIOURAL EFFECTS OF ADRENALINE-LIKE AND ACETYLCHOLINE-LIKE DRUGS.

106846 13-13

## ADRENERGIC

EFFECTS OF ADRENERGIC BLOCKING AGENTS ON PERCEPTUAL TYPES IN AN AUTONOMIC CONDITIONING PARADIGM (UNPUBLISHED PAPER).

085292 13-17

ADRENERGIC CHOLINERGIC INVOLVEMENT IN MODULATION OF LEARNED BEHAVIOR.

086423 13-04

TRANSYNAPTIC INDUCTION OF DOPAMINE-BETA-HYDROXYLASE IN ADRENERGIC TISSUES OF THE RAT (UNPUBLISHED PAPER).

092859 13-03

THE EFFECTS OF CHRONIC ADMINISTRATION OF SOME CHOLINERGIC AND ADRENERGIC DRUGS ON THE ACTIVITY OF CHOLINE ACETYLTRANSFERASE IN THE OPTIC LOBES OF THE CHICK BRAIN.

100219 13-03

CATECHOLAMINE DEPLETION AND ADRENERGIC NEURONE BLOCKADE: STUDIES WITH DEBRISOQUINE.

104011 13-03

EFFECTS OF ALPHA-METHYLTYROSINE AND ADRENERGIC BLOCKING AGENTS ON THE FACILITATING ACTION OF AMPHETAMINE AND NICOTINE ON LEARNING IN RATS.

104373 13-04

EFFECT OF POST-TRIAL INJECTION OF BETA ADRENERGIC BLOCKING AGENTS ON A CONDITIONED REFLEX IN RATS.

104577 13-04

JB-336 EFFECT ON THE CENTRAL ADRENERGIC SYSTEM.

105992 13-03

FAILURE TO AFFECT TISSUE RESERPINE CONCENTRATIONS BY ALTERATION OF ADRENERGIC NERVE ACTIVITY.

108399 13-03

ADRENERGIC EFFECT OF CHRONIC ADMINISTRATION OF NEUROLEPTICS AND ANTIDEPRESSANTS ON A MODEL OF APOMORPHINE INDUCED STEREOTYPY.

111135 13-04

THE INFLUENCE OF ADRENERGIC RECEPTOR BLOCKING AGENTS, AMPHETAMINE, AND 6-AMINONICOTINAMIDE ON THERMOREGULATION.

119553 13-03

ADRENERGIC MECHANISMS IN HYPOGLYCEMIC SHOCK IN RABBITS: II. DISORDERS OF ADRENERGIC RESPONSE COMPENSATING HYPOGLYCEMIA IN RABBITS TREATED WITH SMALL DOSES OF RESERPINE.

119648 13-03

## ADRENOCEPTOR

PROLONGED EFFECTS OF RESERPINE ADMINISTRATION ON ADRENOCEPTOR ACTIVITY IN DOGS.

122548 13-03

## ADRENOCHROME

DOUBLE-BLIND STUDY ON THE CORRELATIONS OF URINARY ELIMINATION OF CATECHOLAMINES AND THEIR METABOLITES (SUPPOSED TO COME THROUGH ADRENOCHROME, NORADRENOCHROME AND DOPACHROME) WITH CLINICAL STATE OF 50 PATIENTS UNDER DIFFERENT PSYCHOPHARMACOLOGIC DRUG.

087003 13-13

## ADRENOCORTICAL

SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: A STUDY OF THE ADRENOCORTICAL RESPONSE TO INTRAVENOUSLY ADMINISTERED INSULIN AND ACTH.

091370 13-08

EFFECT OF LITHIUM CITRATE ON ADRENOCORTICAL ACTIVITY IN MANIC-DEPRESSIVE ILLNESS.

100317 13-09

ADRENOCORTICAL FUNCTION AND SEX DIFFERENCES IN ACQUISITION AND EXTINCTION OF ACTIVE AVOIDANCE BEHAVIOR IN THE RAT.

104457 13-04

POSSIBLE ROLE OF THE PITUITARY/ADRENOCORTICAL AXIS IN AGGRESSIVE BEHAVIOUR.

111873 13-04

## ADRENOCORTICOTROPIC

A BARBITURATE LIKE EFFECT OF ADRENOCORTICOTROPIC HORMONE ON THE PARTIAL REINFORCEMENT ACQUISITION AND EXTINCTION EFFECTS.

082858 13-04

## ADRENOLYTIC

THE INFLUENCE OF ADRENOLYTIC AGENTS ON THE CATECHOLAMINE TOXIC ACTION IN MICE AND RATS.

098296 13-05

## ADRENOMEDULLARY

EFFECTS OF RESTRAINT ON RAT ADRENOMEDULLARY RESPONSE TO 2-DEOXY-D-GLUCOSE.

103948 13-03

## ADSORPTION

CHLORPROMAZINE ADSORPTION TO BRAIN REGIONS.

108396 13-03

## ADULT

THE EFFECT OF STRYCHNINE ADMINISTRATION DURING DEVELOPMENT ON ADULT MAZE LEARNING IN THE RAT II: DRUG ADMINISTRATION FROM DAY 51 TO 70.

104377 13-04

EFFECTS OF STRYCHNINE DURING DIFFERENT PERIODS OF DEVELOPMENT ON MAZE LEARNING IN ADULT RATS.

120961 13-03

## ADULTS

ANXIOUS DEPRESSED ADULTS AND PROBLEM CHILDREN TREATED WITH THIORIDAZINE IN PRIVATE PRACTICE.

078943 13-10

## ADVERSE

AN ADVERSE REACTION UNIT: RESULTS AND FUNCTIONS.

085460 13-15

ADVERSE REACTIONS DURING TREATMENT OF PARKINSONS DISEASE WITH LEVODOPA.

095426 13-15

ACUTE ADVERSE REACTIONS TO LSD IN CLINICAL AND EXPERIMENTAL USE IN THE UNITED KINGDOM.

099307 13-12

ADVERSE REACTIONS AND THE SPECIFICITY OF ANTIDEPRESSANT DRUG EFFECTS.

105277 13-15

ADVERSE EFFECTS OF HYDANTOINS.

108798 13-15

## ADVERTISING

DRUG ADVERTISING AND PERCEPTION OF MENTAL ILLNESS.

085597 13-17

## AER

AER IN AFFECTIVE DISORDERS (UNPUBLISHED PAPER).

088385 13-09

AER IN AFFECTIVE DISORDERS.

092743 13-11

## AFFECT

FAILURE TO AFFECT TISSUE RESERPINE CONCENTRATIONS BY ALTERATION OF ADRENERGIC NERVE ACTIVITY.

108399 13-03

FACTORS THAT AFFECT THE BINDING AND UPTAKE OF GABA BY BRAIN TISSUE.

111216 13-03

## AFFECTIVE

PROPHYLACTIC DISPENSATION OF LITHIUM CARBONATE IN AFFECTIVE PSYCHOSES.

087191 13-11

AER IN AFFECTIVE DISORDERS (UNPUBLISHED PAPER).

088385 13-09

AER IN AFFECTIVE DISORDERS.

092743 13-11

CATECHOLAMINES AND AFFECTIVE ILLNESS. STUDIES WITH L-DOPA AND ALPHA-METHYL-P-TYROSINE (UNPUBLISHED PAPER).

092897 13-09

METHODOLOGY FOR DRUG EVALUATION IN AFFECTIVE DISORDERS: DEPRESSION. AGENTS.

095537 13-09

METHODOLOGY FOR DRUG EVALUATION IN AFFECTIVE DISORDERS: MANIA. AGENTS.

095538 13-09

NEUROPHYSIOLOGICAL CORRELATES OF AFFECTIVE DISORDERS.

095943 13-13

METABOLIC ASPECTS OF AMINO ACID LOADING AND DRUG ADMINISTRATION IN ANIMAL STUDIES. AFFECTIVE ILLNESSES.

099335 13-03

PROPHYLACTIC ADMINISTRATION OF LITHIUM CARBONATE IN AFFECTIVE PSYCHOSES.

101311 13-09

ETHANOL AND THE NEURAL SUBSTRATE FOR AFFECTIVE DEFENSE IN THE CAT.

101748 13-04

AFFECTIVE DISTURBANCE IN HYPOTHYROIDISM.

101896 13-09

PROPHYLACTIC EFFECTS OF LITHIUM SALTS IN PERIODIC AFFECTIVE PSYCHOSES.

101967 13-09

LITHIUM AND RUBIDIUM: A ROLE IN THE AFFECTIVE DISORDERS.

102592 13-09

PROPHYLACTIC EFFECT OF LITHIUM SALTS IN PERIODIC AFFECTIVE PSYCHOSIS.

102602 13-09

PROPHYLACTIC LITHIUM IN AFFECTIVE DISORDERS.

109105 13-09

- USE OF LITHIUM SALTS IN TREATMENT AND PREVENTION OF AFFECTIVE PSYCHOSES. 113750 13-09
- PROPHYLACTIC EFFECT OF LITHIUM SALT IN AFFECTIVE PSYCHOSES. 118208 13-09
- SEROTONIN AND SEVERE AFFECTIVE DISORDERS. 122374 13-09
- AFFERENTS**
- EFFECTS OF SOME NARCOTIC ANALGESICS AND RELATED COMPOUNDS UPON THE EXTENSOR MONOSYNAPTIC REFLEX INHIBITION FROM CUTANEOUS NERVE AND HIGH THRESHOLD MUSCLE AFFERENTS. 125324 13-03
- EFFECTS OF SOME NARCOTIC ANALGESICS UPON THE MONOSYNAPTIC REFLEX INHIBITION FROM MUSCULAR AND CUTANEOUS AFFERENTS IN SPINAL CORD OF THE CAT. 125327 13-03
- AFFILIATION**
- AUTONOMIC AROUSAL AND AFFILIATION IN RATS. 105060 13-04
- AFFLICTION**
- EXTRAPYRAMIDAL AFFLICTION IN TWO YOUNG BROTHERS, REMARKABLE EFFECTS OF TREATMENT WITH L-DOPA. 101377 13-11
- AFRICA**
- A NOTE ON THE INFLUENCE OF DIET IN WEST AFRICA ON URINARY PH AND EXCRETION OF AMPHETAMINE IN MAN. 077904 13-13
- AFTERDISCHARGES**
- EFFECTS OF SOME SYMPATHOMIMETIC DRUGS AND THEIR ANTAGONIST ON AFTERDISCHARGES ELICITED IN CHRONICALLY ISOLATED SLABS OF CEREBRAL CORTEX. 108793 13-03
- AG-620**
- BIOCHEMICAL STUDIES OF CEREBRAL SUBFRACTIONS AFTER CHRONIC ADMINISTRATION OF PYRIDAZINE (N MORPHOLINE 3-ETHYLAMINE 4-PHENYL 6-PYRIDAZINE HYDROCHLORIDE, AG-620). 102694 13-03
- AGE**
- DIFFERENCES AMONG AGE AND SEX GROUPS WITH RESPECT TO CARDIOVASCULAR CONDITIONING AND REACTIVITY. (UNPUBLISHED PAPER). 082516 13-13
- THE INEFFECTIVENESS OF DIPHENYHYDANTOIN IN PREVENTING FEBRILE CONVULSIONS IN THE AGE OF GREATEST RISK, UNDER THREE YEARS. 100844 13-11
- SPECIES AND AGE DIFFERENCES IN THE ACTIVITY OF ISOCARBOXAZID HYDROLYSING ENZYME. 104324 13-03
- AGED**
- THE USE OF PSYCHOPHARMACOLOGICAL DRUGS IN THE AGED. 089319 13-17
- REPORT ON THE USE OF A NEW GERIATRIC DRUG IN A HOME FOR THE AGED AND NURSING HOME. 098451 13-11
- AGENESIS**
- CHARACTEROPATHIC CHANGES AND EXPRESSIVE APHASIA IN A CHILD WITH CONGENITAL AGENESIS OF THE SEPTUM PELLUCIDUM. 122951 13-11
- AGGREGATED**
- INCREASED TOXICITY OF MORPHINE-LIKE ANALGESICS IN AGGREGATED MICE. 106845 13-05
- AGGREGATION**
- INFLUENCE OF PH ON AGGREGATION AND PROTEIN BINDING OF BARBITURIC ACID AND AMYLOBARBITONE. 089049 13-03
- LITHIUM CARBONATE AND ERYTHROCYTE AGGREGATION STATES. 095155 13-09
- THE EFFECT OF OCTOCLOTHEPINE ON THE EPINEPHRINE AGGREGATION TEST. 106097 13-15
- AGGRESSION**
- THE PREPUTIAL GLANDS AS A SOURCE OF AGGRESSION PROMOTING ODORS IN MICE. 088571 13-04
- EFFECT OF LITHIUM ON HUMAN AGGRESSION. 095220 13-09
- AGGRESSION AND FLIGHT REACTIONS INDUCED BY CONTINUOUS INCREASE OF BLOOD OSMOLALITY. 098300 13-04
- AGGRESSION AND ASSOCIATED NEURAL EVENTS IN CATS: EFFECTS OF PARA-CHLOROPHENYLALANINE COMPARED WITH ALCOHOL. 101287 13-03
- INCREASED AGGRESSION AND TOXICITY IN GROUPED MALE MICE TREATED WITH TRANQUILIZING BENZODIAZEPINES. 104380 13-05
- FACILITATED AGGRESSION IN THE RAT FOLLOWING 6-HYDROXYDOPAMINE ADMINISTRATION. (UNPUBLISHED PAPER). 106070 13-04
- MORPHINE WITHDRAWAL AGGRESSION: SENSITIZATION BY AMPHETAMINES. 111142 13-04
- RUBIDIUM INDUCED INCREASE IN SHOCK ELICITED AGGRESSION IN RATS. 111144 13-04
- AGGRESSIVE**
- EFFECTS OF SOME PSYCHOACTIVE DRUGS ON CONDITIONED AVOIDANCE RESPONSE IN AGGRESSIVE MICE. 077992 13-04
- AMPHETAMINE TOXICITY IN GENETICALLY AGGRESSIVE AND NONAGGRESSIVE MICE. 087119 13-05
- NEONATAL ADMINISTRATION OF ANDROSTENEDIONE, TESTOSTERONE OR TESTOSTERONE PROPIONATE: EFFECTS ON OVULATION, SEXUAL RECEPTIVITY AND AGGRESSIVE BEHAVIOR IN FEMALE MICE. 088581 13-04
- INFLUENCE OF ISOLATION ON THE AGGRESSIVE BEHAVIOR INDUCED BY APOMORPHINE IN THE RAT. 104430 13-04
- FURTHER ASPECTS OF THE EXPLORATORY BEHAVIOUR IN AGGRESSIVE MICE. 104803 13-04
- POSSIBLE ROLE OF THE PITUITARY/ADRENOCORTICAL AXIS IN AGGRESSIVE BEHAVIOUR. 111873 13-04
- AGGRESSIVENESS**
- THE EFFECTS OF SOME HALLUCINOGENS ON AGGRESSIVENESS OF MICE AND RATS, PART I. 108032 13-04
- AGING**
- CHEMICAL INTERFERENCE WITH AGING. 095301 13-17
- AGITATED**
- CLOZAPINE, A NONCATALEPTIC NEUROLEPTIC FOR THE TREATMENT OF AGITATED CONDITION BEHAVIORAL DISORDERS. 094970 13-14
- AGITATION**
- EFFICACY OF INTRAVENOUSLY USED PROMAZINE IN ACUTE PSYCHOMOTOR AGITATION. 089307 13-11
- AGRANULOCYTOSIS**
- AGRANULOCYTOSIS, LEUKOPENIA, AND PSYCHOTROPIC DRUGS. 086417 13-13
- AGREEMENT**
- AGREEMENT ON SPECIFICITY OF PSYCHOTROPIC DRUGS. 078130 13-16
- AHR-2277**
- NEUROPHARMACOLOGIC ANALYSIS OF AHR-2277: A NEW PSYCHOTHERAPEUTIC AGENT. 106154 13-02
- AIR**
- EFFECTS OF TERTIARY VS QUATERNARY SCOPOLAMINE ON WATER AND AIR DRINKING IN RATS. 123639 13-04
- AL-1021**
- A PILOT STUDY ON THE USE OF AL-1021 IN THE TREATMENT OF ACUTE SCHIZOPHRENICS. 078944 13-08
- AL-1612**
- EVALUATION OF THE ANTIPSYCHOTIC ACTIVITY OF AN INDOLE ANALOGUE, AL-1612. 100540 13-08
- A PILOT STUDY OF AL-1612 IN CHRONIC SCHIZOPHRENICS. 117024 13-08
- ALARM**
- MODIFICATIONS OF THE ALARM PATTERN BY NICOTINE. 086902 13-04
- ALBINO**
- THE EFFECTS OF EPINEPHRINE AND CHLORPROMAZINE ON VISUAL CLIFF BEHAVIOR IN HOODED AND ALBINO RATS. 088070 13-04
- EFFECT OF INHIBITION OF CATECHOLAMINE SYNTHESIS ON CENTRAL CATECHOLAMINE-CONTAINING NEURONES IN THE DEVELOPING ALBINO RAT. 089441 13-03
- ALCOHOL**
- HUNGER AND APPETITE AFTER SINGLE-DOSES OF MARIJUANA, ALCOHOL, AND DEXTROAMPHETAMINE. 069320 13-13
- ALCOHOL INGESTION IN RATS FOLLOWING MEDIAN EMINENCE LESIONS. 079428 13-04
- THE INFLUENCE OF ALCOHOL AND MARIJUANA ON MOTOR AND MENTAL PERFORMANCE. 079431 13-14
- ALCOHOL DEPENDENCE PRODUCED IN MICE BY INHALATION OF ETHANOL: GRADING THE WITHDRAWAL REACTION. 082827 13-03

# Subject Index

# Psychopharmacology Abstracts

- ALCOHOL DEPENDENCE AND OPIATE DEPENDENCE: LACK OF RELATION IN MICE.** 082828 13-03
- A COMPARISON OF TECHNIQUES TO INDUCE ALCOHOL DEPENDENCE AND TOLERANCE IN THE MOUSE (UNPUBLISHED PAPER).** 087462 13-06
- DIPHENYLHYDANTOIN AND ALCOHOL WITHDRAWAL.** 087475 13-11
- ALCOHOLISM, ALCOHOL, AND DRUGS.** 089191 13-13
- COMPARISON OF PYRAZOLE AND 4-BROMOPYRAZOLE AS INHIBITORS OF ALCOHOL DEHYDROGENASES: THEIR POTENCY, TOXICITY AND DURATION OF ACTION IN MICE.** 094253 13-05
- AGGRESSION AND ASSOCIATED NEURAL EVENTS IN CATS: EFFECTS OF PARA-CHLOROPHENYLALANINE COMPARED WITH ALCOHOL.** 101287 13-03
- ALCOHOL, THIORIDAZINE AND CHLORPROMAZINE EFFECTS ON SKILLS RELATED TO DRIVING BEHAVIOUR.** 101615 13-14
- DIPHENYLHYDANTOIN IN THE TREATMENT OF ALCOHOL WITHDRAWAL.** 101687 13-11
- SOME BIOCHEMICAL AND PHARMACOLOGICAL ACTIONS OF (-)-JERYTHROMETA-(META-CHLOROBENZOXY) 2 (1-AMINOETHYL) BENZYL ALCOHOL: A DERIVATIVE OF METARAMINOL.** 101702 13-03
- DEPRESSION ASSOCIATED WITH ALCOHOL WITHDRAWAL.** 101746 13-11
- EFFECTS OF CONFLICT AND STRESS ON ALCOHOL INTAKE IN RATS.** 101758 13-04
- EFFECT OF PITRESSIN ON VOLUNTARY ALCOHOL CONSUMPTION IN THE RAT.** 102868 13-04
- CITRATED CALCIUM CARBIMIDE/ALCOHOL REACTION - ITS SEVERITY AND EFFECTIVENESS AS A DETERRENT.** 103099 13-11
- EFFECTS OF ALCOHOL ON CEREBELLAR AND VESTIBULAR NEURONES.** 103654 13-03
- AN EXPERIMENTAL AND CLINICAL CONTRIBUTION TO INTERACTION OF ALCOHOL AND DIAZEPAM.** 105906 13-03
- BEHAVIOUR OF UNTREATED MICE TO ALCOHOL OR CHLORDIAZEPOXIDE TREATED PARTNERS.** 105996 13-04
- SLEEP, PSYCHOLOGICAL AND CLINICAL CHANGES DURING ALCOHOL WITHDRAWAL IN NAD-TREATED ALCOHOLICS.** 106132 13-11
- ALCOHOL AND THE BENZODIAZEPINES: THE INTERACTION BETWEEN INTRAVENOUS ETHANOL AND CHLORDIAZEPOXIDE AND DIAZEPAM.** 106136 13-13
- HANDWRITING CHANGES FOLLOWING MEPROBAMATE AND ALCOHOL: A GRAPHOMETRIC RADIOLOGICAL INVESTIGATION.** 106143 13-14
- DIAZEPAM, ALCOHOL, AND BARBITURATE ABUSE.** 107948 13-15
- EFFECTS OF ALCOHOL AND METHYLPHENIDATE ON COMPLEX JUDGMENTS.** 113919 13-13
- ALCOHOLIC**
- A CONTRIBUTION TO ETIOPATHOGENESIS OF DISULFIRAM ALCOHOLIC PSYCHOSES.** 087136 13-15
- EVALUATING CHANGES IN SYMPTOMS DURING ACUTE ALCOHOLIC WITHDRAWAL.** 097378 13-11
- A CLINICAL TRIAL OF SCH-12041 WITH CHRONIC ALCOHOLIC PATIENTS.** 099156 13-07
- TREATMENT OF ALCOHOLIC WITHDRAWAL IN THE CHRONIC ALCOHOLIC PATIENT.** 100412 13-14
- ALCOHOLICS**
- TREATMENT OF HOSPITALIZED ALCOHOLICS WITH DOXEPIN AND DIAZEPAM: A CONTROLLED STUDY.** 073606 13-11
- DIFFICULTIES OF DISULFIRAM THERAPY WITH ALCOHOLICS.** 090725 13-11
- THE EFFECT OF PHYSOSTIGMINE ON THE PERCEPTION AND CONSOLIDATION PHASE OF MEMORY AND LEARNING IN ALCOHOLICS.** 105917 13-14
- SLEEP, PSYCHOLOGICAL AND CLINICAL CHANGES DURING ALCOHOL WITHDRAWAL IN NAD-TREATED ALCOHOLICS.** 106132 13-11
- THE PSYCHOLOGICAL EFFECTS OF PROPRANOLOL IN THE ABSTINENCE PHASE OF CHRONIC ALCOHOLICS.** 107596 13-11
- ALCOHOLICUM**
- ANTICONVULSIVE SEDATIVE TREATMENT OF DELIRIUM ALCOHOLICUM.** 101754 13-11
- ALCOHOLISED**
- THE INFLUENCE OF 1,5 DICAFFEYLQUINIC ACID ON SERUM LIPIDS IN THE EXPERIMENTALLY ALCOHOLISED RAT.** 100334 13-03
- ALCOHOLISM**
- THE PHARMACOLOGY OF DISULFIRAM IN THE TREATMENT OF ALCOHOLISM.** 088510 13-13
- CANNABIS AS A TREATMENT FOR ALCOHOLISM.** 089184 13-12
- ALCOHOLISM, ALCOHOL, AND DRUGS.** 089191 13-13
- DRUG THERAPY IN ALCOHOLISM.** 093791 13-11
- SUGGESTIONS FOR DRUG STUDIES IN ALCOHOLISM.** 095543 13-11
- ADRENAL FUNCTION AND ALCOHOLISM: II. CATECHOLAMINES.** 096452 13-13
- ALCOHOLISM.** 104047 13-11
- THE TREATMENT OF ACUTE ALCOHOLISM IN A SMALL RURAL HOSPITAL.** 105040 13-17
- ALDEHYDE**
- INHIBITION OF ALDEHYDE DEHYDROGENASE BY 2-CHLOROACETOPHENONE AND THE RESULTANT EFFECTS OF THE CATABOLISM OF NOREPINEPHRINE ON BRAIN.** 077726 13-03
- EFFECT OF PYRAZOLE IN VIVO ON ALDEHYDE METABOLISM IN RAT LIVER AND BRAIN.** 105709 13-03
- ALDOLASE**
- FUNCTIONAL INTERACTIONS BETWEEN ALDOLASE AND CHLORPROMAZINE.** 119698 13-03
- ALDRIN**
- EFFECT OF ALDRIN ON THE CONDITION AVOIDANCE RESPONSE AND ELECTROSHOCK SEIZURE THRESHOLD OF OFFSPRING FROM ALDRIN TREATED MOTHER.** 104791 13-04
- ALIMENTARY**
- THE EFFECT OF CHLORPROTHIXENE AND CAFFEINE ON THE CONDITIONED ALIMENTARY MOTOR REFLEXES IN CATS.** 106002 13-04
- ALKALOID**
- THE VIOLET PIGMENT OF LYSERGIC ACID ALKALOID PRODUCING CULTURES OF CLAVICEPS-PASPALI: FERRIC COMPLEX OF 2,3 DIHYDROXYBENZOIC ACID.** 100171 13-01
- ALKALOIDS**
- CACTUS ALKALOIDS X: ISOLATION OF HORDENINE AND N-METHYLTYRAMINE FROM ARIOCARPUS-KOTSCHOUBEYANUS.** 079413 13-01
- OPIUM ALKALOIDS IX: DETECTION OF COREXIMINE IN PAPAVER-SOMNIFERUM L. BASED ON ITS BIOSYNTHESIS FROM RETICULINE.** 086577 13-01
- COMPARATIVE PSYCHOPHARMACOLOGIC INVESTIGATION OF CRYOGENINE, CERTAIN NONSTEROID ANTIINFLAMMATORY COMPOUNDS, LUPINE ALKALOIDS AND CYPROHEPTADINE.** 091281 13-02
- CACTACEAE ALKALOIDS: X. ALKALOIDS OF TRICHOCEREUS SPECIES AND SOME OTHER CACTI.** 100170 13-01
- TETRAHYDROISOQUINOLINE ALKALOIDS IN THE ADRENAL MEDULLA AFTER PERFUSION WITH BLOOD CONCENTRATIONS OF (14C)ACETALDEHYDE.** 108281 13-03
- ALL-NIGHT**
- ARE OVER-THE-COUNTER SLEEP MEDICATIONS EFFECTIVE? ALL-NIGHT EEG STUDIES.** 079234 13-14
- CLINICAL INVESTIGATION OF DOXEPIN IN DEPRESSED PATIENTS. PILOT OPEN STUDY, CONTROLLED DOUBLE-BLIND TRIAL VERSUS IMIPRAMINE, AND ALL-NIGHT POLYGRAPHIC STUDY.** 099031 13-10
- ALLROIC**
- OXAZEPAM IN ALLERGIC CONDITIONS.** 073607 13-11
- ALLERGIES**
- ATTEMPTED THERAPY OF DEPRESSIVE PSYCHOSIS BY MEANS OF EXPERIMENTALLY INDUCED SKIN ALLERGIES.** 126102 13-09
- ALLERGY**
- DRUG ALLERGY.** 074239 13-15
- ALLEVIATION**
- COMPARISON OF MAJOR DRUG THERAPIES FOR ALLEVIATION OF ANXIETY AND DEPRESSION.** 103912 13-14

## ALPHA

- EFFECT OF ANESTHETIC DRUGS ON TIME PRODUCTION AND ALPHA RHYTHM. 111839 13-14
- ALPHA-ADRENORECEPTORS**  
SOME BRONCHOCOONSTRICING AND BRONCHODILATING RESPONSES OF HUMAN ISOLATED BRONCHI. EVIDENCE FOR THE EXISTENCE OF ALPHA-ADRENORECEPTORS. 106429 13-13
- ALPHA-METHYL-M-TYROSINE**  
EFFECT OF TETRABENZAZINE AND ALPHA-METHYL-M-TYROSINE ON EXPLORATORY ACTIVITY AND BRAIN CATECHOLAMINES IN RATS. 077425 13-04
- ALPHA-METHYL-P-TYROSINE**  
CATECHOLAMINES AND MANIA: THE EFFECT OF ALPHA-METHYL-P-TYROSINE ON MANIC BEHAVIOR AND CATECHOLAMINE METABOLISM. 079064 13-09  
CHANGES IN PRIMATE SOCIAL BEHAVIOR AFTER TREATMENT WITH ALPHA-METHYL-P-TYROSINE. 085419 13-04  
STUDIES OF ALPHA-METHYL-P-TYROSINE, L-DOPA, AND L-TRYPTOPHAN IN DEPRESSION AND MANIA. 085448 13-09  
DECREASED SEPTAL FOREBRAIN AND LATERAL HYPOTHALAMIC REWARD AFTER ALPHA-METHYL-P-TYROSINE. 088681 13-04  
CATECHOLAMINES AND AFFECTIVE ILLNESS: STUDIES WITH L-DOPA AND ALPHA-METHYL-P-TYROSINE (UNPUBLISHED PAPER). 092897 13-09  
CHANGES IN REM SLEEP OF CHRONIC ANXIOUS DEPRESSED PATIENTS GIVEN ALPHA-METHYL-P-TYROSINE (UNPUBLISHED PAPER). 093260 13-10  
EFFECT OF SOME AMPHETAMINE ANALOGUES ON ALPHA-METHYL-P-TYROSINE INDUCED CATALEPSY IN RATS. 108797 13-03  
ALPHA-METHYL-P-TYROSINE AND SLEEP IN THE RAT. 110192 13-04
- ALPHA-METHYLDOPA**  
DEPRESSION OF BEHAVIOR AND THE BRAIN CONTENT OF ALPHA-METHYLNOREPINEPHRINE AND ALPHA-METHYLDOPAMINE FOLLOWING THE ADMINISTRATION OF ALPHA-METHYLDOPA. 082757 13-04
- ALPHA-METHYLDOPAHYDRAZINE**  
ANTIPARKINSONIAN EFFICACY AND TOXICITY OF L-DOPA ALONE AND IN COMBINATION WITH ALPHA-METHYLDOPAHYDRAZINE (MDH) (UNPUBLISHED PAPER). 092899 13-09
- ALPHA-METHYLDOPAMINE**  
DEPRESSION OF BEHAVIOR AND THE BRAIN CONTENT OF ALPHA-METHYLNOREPINEPHRINE AND ALPHA-METHYLDOPAMINE FOLLOWING THE ADMINISTRATION OF ALPHA-METHYLDOPA. 082757 13-04
- ALPHA-METHYLNORADRENALINE**  
POTENTIATION BY COCAINE OF RESPONSES OF THE GUINEA-PIG ISOLATED TRACHEAL CHAIN TO ETHYLNORADRENALINE AND ALPHA-METHYLNORADRENALINE. 122550 13-03
- ALPHA-METHYLNOREPINEPHRINE**  
DEPRESSION OF BEHAVIOR AND THE BRAIN CONTENT OF ALPHA-METHYLNOREPINEPHRINE AND ALPHA-METHYLDOPAMINE FOLLOWING THE ADMINISTRATION OF ALPHA-METHYLDOPA. 082757 13-04
- ALPHA-METHYLTRYPTOPHAN**  
ALPHA-METHYLTRYPTOPHAN INCREASES 5-HYDROXYTRYPTAMINE-LIKE MATERIAL IN RAT BRAIN. 106909 13-03
- ALPHA-METHYLTYROSINE**  
BEHAVIORAL EFFECTS OF METHAMPHETAMINE AND ALPHA-METHYLTYROSINE IN THE RAT. 082723 13-04  
THE EFFECTS OF ALPHA-METHYLTYROSINE ON SLEEP AND BRAIN NOREPINEPHRINE IN CATS. 082787 13-04  
EFFECTS OF ALPHA-METHYLTYROSINE AND ADRENERGIC BLOCKING AGENTS ON THE FACILITATING ACTION OF AMPHETAMINE AND NICOTINE ON LEARNING IN RATS. 104373 13-04  
EFFECTS OF ALPHA-METHYLTYROSINE ON THE CEREBROSPINAL FLUID CONTENT OF HVA AND 5-HIAA IN MAN. 104570 13-13
- ALPRENOLOL**  
THE INFLUENCE OF 1-(O-ALLYLPHENOXY)-3-ISOPROPYLAMINO-2-PROPANOL HYDROCHLORIDE (ALPRENOLOL) ON THE CENTRAL NERVOUS SYSTEM OF THE RAT. 124105 13-03

## ALTERATION

- ALTERATION OF BEHAVIOURAL CHANGES INDUCED BY 3,4,5-TRIMETHOXYPHENYLETHYLAMINE (MESCALINE) BY PRETREATMENT WITH 2,4,5-TRIMETHOXYPHENYLETHYLAMINE: A SELF-EXPERIMENT. 102193 13-12
- FAILURE TO AFFECT TISSUE RESERPINE CONCENTRATIONS BY ALTERATION OF ADRENERGIC NERVE ACTIVITY. 108399 13-03
- ALTERATIONS**  
ELECTROENCEPHALOGRAPHIC AND BEHAVIORAL ALTERATIONS PRODUCED BY DELTA1-TETRAHYDROCANNABINOL. 088973 13-04  
PLASMA CORTICOSTERONE CHANGES FOLLOWING ALTERATIONS IN BRAIN NOREPINEPHRINE AND SEROTONIN. 098290 13-03  
EFFECT OF MONOAMINE OXIDASE INHIBITORS ON QUALITATIVE ALTERATIONS IN ENZYMATIC PROPERTIES OF MITOCHONDRIAL MONOAMINE OXIDASES. 118566 13-03  
ALTERATIONS IN TREMOR REGULATION AFTER INTRACAUDATE INJECTIONS OF CALCIUM IONS OR DISODIUM EDEATE. 122541 13-03
- ALTERED**  
BRAIN HISTAMINE: RAPID APPARENT TURNOVER ALTERED BY RESTRAINT AND COLD STRESS. 078017 13-03  
ALTERED STATES OF CONSCIOUSNESS: AN EXPERIMENTAL CASE STUDY. 090690 13-12
- ALTERING**  
PEDIATRIC PRACTICE: WHOSE MOOD ARE WE ALTERING? 087270 13-14
- ALTERNATE**  
ALTERNATE APPLICATION OF MELLERIL SANDOZ (THIORIDAZINE) AND ITS METABOLITE INOFAL IN PSYCHIATRIC THERAPY. 126007 13-11
- ALTITUDE**  
EFFECTS OF MONOAMINE OXIDASE INHIBITORS AND RESERPINE ON BRAIN AMINES IN ALTITUDE EXPOSED RATS. 085727 13-13
- AMANTADINE**  
THE ANTIPARKINSON PROPERTIES OF AMANTADINE IN DRUG-INDUCED PARKINSONISM. 087031 13-13  
CONTROLLED TRIAL OF AMANTADINE HYDROCHLORIDE IN PARKINSONS DISEASE. 095622 13-11  
LIVEDO RETICULARIS DURING AMANTADINE TREATMENT. 098142 13-15  
AMANTADINE IN DEPRESSION. 098751 13-09  
AMANTADINE AND HUNTINGTONS CHOREA. 102751 13-11  
THE THERAPEUTIC POSSIBILITIES OF L-DOPA AND AMANTADINE IN PARKINSONIAN PATIENTS WHO HAVE UNDERGONE BILATERAL THALAMOTOMY. 111608 13-14  
DOPAMINE: RELEASE FROM THE BRAIN IN VIVO BY AMANTADINE. 112064 13-13  
AMANTADINE HYDROCHLORIDE TREATMENT OF TARDIVE DYSKINESIA. 112538 13-07  
THE EFFECT OF AMANTADINE ON SPONTANEOUS LOCOMOTOR ACTIVITY IN THE RAT. 120820 13-03  
BEHAVIOURAL EFFECT OF AMANTADINE IN RATS AFTER INHIBITION OF MONOAMINE SYNTHESIS, STORAGE AND RECEPTOR INTERACTION. 123277 13-03
- AMENORRHEIC**  
PLASMA MONOAMINE OXIDASE ACTIVITY IN REGULARLY MENSTRUATING WOMEN AND IN AMENORRHEIC WOMEN RECEIVING CYCLIC TREATMENT WITH ESTROGENS AND A PROGESTIN. 104616 13-13
- AMENTAL**  
AMENTAL AND APHASIC DISTURBANCES APPEARING DURING PSYCHOPHARMACOLOGIC THERAPY. 125070 13-15
- AMINAZINE**  
SOME PATHOPHYSIOLOGICAL FEATURES OF THE EFFECT OF AMINAZINE IN THE STUPOROUS SYNDROME. 102668 13-13  
INFLUENCE OF AMINAZINE ON THE ADAPTATION OF THE CARDIOVASCULAR SYSTEM IN EPILEPTIC PATIENTS. 102830 13-17
- AMINE**  
THE EFFECT OF DRUGS INFLUENCING AMINE SYNTHESIS ON THE ANALGESIC ACTION OF TREMORINE. 104804 13-03

- STUDY WITH MESCALINE-8-C14 IN MICE: EFFECT OF AMINE OXIDASE INHIBITORS ON METABOLISM. 107959 13-03
- AMINE UPTAKE CHARACTERISTICS OF THE GUINEA-PIG AUERBACH PLEXUS. 120466 13-03
- IMPORTANCE OF NERVOUS IMPULSE FLOW FOR THE NEUROLEPTIC INDUCED INCREASE IN AMINE TURNOVER IN CENTRAL DOPAMINE NEURONS. 120717 13-03
- THE INFLUENCE OF PROLONGED AMPHETAMINE TREATMENT AND AMPHETAMINE WITHDRAWAL ON BRAIN BIOGENIC AMINE CONTENT AND BEHAVIOUR IN THE RAT. 125163 13-03
- AMINES**
- EFFECT OF DRUGS ON AMINES IN THE CNS. 077923 13-03
- EFFECTS OF MORPHOLINO, PYRROLIDINO, PIPERIZINO, AND CYCLOOCTYL DERIVATIVES OF BETA-ALANINE ON BRAIN AMINES AND AMINO ACIDS. 082729 13-04
- EFFECTS OF MONOAMINE OXIDASE INHIBITORS AND RESERPINE ON BRAIN AMINES IN ALTITUDE EXPOSED RATS. 085727 13-13
- DOXEPIN: EFFECTS ON TRANSPORT OF BIOGENIC AMINES IN MAN. 104571 13-13
- PRELIMINARY EVIDENCE THAT SYROSLINGOPINE PRODUCES A SELECTIVE DEPLETION OF CENTRAL STORES OF SYMPATHOMIMETIC AMINES. 106422 13-03
- THE UPTAKE AND SUBCELLULAR DISTRIBUTION OF AROMATIC AMINES IN THE BRAIN OF THE RAT. 106922 13-03
- RELEASE OF CATECHOLAMINE FROM THE CAT HEART BY SOME DIRECTLY AND INDIRECTLY ACTING SYMPATHOMIMETIC AMINES. 108288 13-03
- EFFECT OF P-NITROMETHYLAMPHETAMINE ON BIOGENIC AMINES AND THEIR AMINO ACID PRECURSORS IN RAT BRAIN. 108794 13-03
- ACTIONS OF DEXAMPHETAMINE AND AMPHETAMINE-LIKE AMINES IN CHICKENS WITH BRAIN TRANSECTIONS. 109194 13-03
- CENTRAL EFFECTS OF SYMPATHOMIMETIC AMINES ON THE BLOOD PRESSURE. 120718 13-03
- THE INTERFERENCE OF TRICYCLIC PSYCHOACTIVE DRUGS ON THE UPTAKE OF BIOGENIC AMINES BY ISOLATED MAST CELLS. 123282 13-03
- AMINO**
- EFFECTS OF MORPHOLINO, PYRROLIDINO, PIPERIZINO, AND CYCLOOCTYL DERIVATIVES OF BETA-ALANINE ON BRAIN AMINES AND AMINO ACIDS. 082729 13-04
- PROTEIN METABOLISM AND AMINO ACID ACCUMULATION IN THE RAT SUBMAXILLARY GLAND DURING REDUCED SYMPATHETIC ACTIVITY. 087123 13-03
- THE EFFECTS OF EXCITATORY AND INHIBITORY AMINO ACIDS ON THE METABOLISM OF ENDOGENOUS BRAIN AMINO ACIDS IN THE NEMBUTALIZED MOUSE. 099266 13-03
- METABOLIC ASPECTS OF AMINO ACID LOADING AND DRUG ADMINISTRATION IN ANIMAL STUDIES. AFFECTIVE ILLNESSES. 099335 13-03
- EFFECTS OF INTRAPERITONEAL INJECTIONS OF LITHIUM CHLORIDE ON THE ENTRY OF RADIOACTIVE CARBON ATOMS OF GLUCOSE AND AMINO ACIDS INTO MOUSE BRAIN AND OTHER TISSUES. 106524 13-03
- EFFECT OF P-NITROMETHYLAMPHETAMINE ON BIOGENIC AMINES AND THEIR AMINO ACID PRECURSORS IN RAT BRAIN. 108794 13-03
- MESCALINE INDUCED CHANGES OF BRAIN CORTX RIBOSOMES. EFFECT OF MESCALINE ON AMINO ACID INCORPORATING ABILITY OF RIBOSOMES. 109418 13-03
- AMINOACYL**
- FRACTIONATION OF GOLDFISH BRAIN AMINOACYL TRANSFER RNA AT THE MICROGRAM LEVEL. 087125 13-06
- AMINOGLUANIDINE**
- EFFECT OF AMINOGLUANIDINE, CHLORPROMAZINE AND NSD-1055 ON GASTRIC SECRETION AND ULCERATION IN THE SHAY RAT. 089442 13-03
- AMINOXYACETIC**
- BLOOD-BRAIN BARRIER TO H3-GAMMA-AMINOBUTYRIC ACID IN NORMAL AND AMINOXYACETIC ACID TREATED ANIMALS. 082756 13-03
- AMITRIPTYLINE**
- A COMPARATIVE TRIAL OF DOXEPIN AND AMITRIPTYLINE IN DEPRESSIVE ILLNESS. 078156 13-09
- AN ATTEMPT TO CORRELATE THE EFFECT OF IMIPRAMINE AND OF AMITRIPTYLINE WITH SOME GENETIC CHARACTERISTICS. 086077 13-13
- DIBENZEPINE AND AMITRIPTYLINE IN THE TREATMENT OF DEPRESSION. 099124 13-10
- COMPARISON OF CHLORDIAZEPoxide AMITRIPTYLINE COMBINATION WITH AMITRIPTYLINE ALONE IN ANXIETY DEPRESSIVE STATES. 102215 13-10
- A DOUBLE-BLIND COMPARISON OF DOTHIEPIN AND AMITRIPTYLINE FOR THE TREATMENT OF DEPRESSION WITH ANXIETY. 104830 13-09
- INFLUENCE OF A CHRONIC TREATMENT ON THE DISTRIBUTION OF AMITRIPTYLINE AND METABOLITES IN RABBIT BRAIN. 105708 13-03
- CONTROLLED COMPARISON OF THE THERAPEUTIC EFFECT OF TRIMEPROPRIMINE AND AMITRIPTYLINE. 105835 13-11
- THE EFFECT OF AMITRIPTYLINE ON THE BEHAVIOUR AND EEG OF RATS AFTER DEPLETION OF SEROTONIN BY PARA-CHLOROPHENYLAMINE. 106093 13-03
- EEG FREQUENCY ANALYSIS IN THE TREATMENT WITH SOME ANTIDEPRESSANT DRUGS: (IMIPRAMINE, AMITRIPTYLINE, DIBENZEPINE, DIMETHACRINE). 112289 13-09
- DETERMINATION OF AMITRIPTYLINE AND METABOLITES IN VARIOUS ORGANS AFTER FATAL POISONING. 117457 13-15
- A PSYCHODERMATOLOGICAL STUDY OF A COMBINATION OF TWO COMPOUNDS RESULTING IN A MIXED REACTION, ANTIDEPRESSIVE AND TRANQUILIZING (AMITRIPTYLINE - PERPHENAZINE). 121753 13-07
- AMIZYL**
- THE INFLUENCE OF AMIZYL AND DIPACYL ON PROCESSES OF CAPTURE AND DISCHARGE OF NOREPINEPHRINE. 107723 13-03
- AMMONIA**
- INDUCED FORMATION OF PHENYLALANINE AMMONIA LYASE AND PISATIN BY CHLORPROMAZINE AND OTHER PHENOTHIAZINE DERIVATIVES. 108716 13-17
- AMMONIUM**
- EFFECT OF AMMONIUM CHLORIDE ON THE POTENTIATION OF AMPHETAMINE BY PSYCHOTROPIC DRUGS IN THE RAT. 082793 13-03
- AMNESIA**
- CLINICAL STUDY OF PRIBEDIL WITH SYNDROMES OF INTELLECTUAL DETERIORATION IN AMNESIA. 093701 13-11
- COMPARATIVE LEARNING IMPAIRMENT AND AMNESIA BY SCOPOLAMINE PHENCYCLIDINE, AND KETAMINE. 101352 13-04
- THE INFLUENCE OF OROTIC ACID ON THE RETROGRADE AMNESIA CAUSED BY ECS. 103945 13-04
- PHARMACOLOGICAL PROTECTION AGAINST HYPOXIA INDUCED AMNESIA IN RATS. 104145 13-04
- CYCLOHEXIMIDE INDUCED AMNESIA: ITS INTERACTION WITH DETENTION. 104796 13-04
- THE CYCLOHEXIMIDE INDUCED AMNESIA GRADIENT OF A PASSIVE AVOIDANCE TASK. 105075 13-04
- THE ATTENUATING EFFECT OF STRYCHNINE AND PHYSOSTIGMINE ON DURAL ELECTROCONVULSIVE SHOCK INDUCED RETROGRADE AMNESIA. (PH.D. DISSERTATION). 109358 13-04
- AMNESIC**
- AMNESIC EFFECTS OF CYCLOHEXIMIDE ON TWO STRAINS OF MICE WITH DIFFERENT MEMORY CHARACTERISTICS. 082799 13-04
- AMOBARBITAL**
- AMOBARBITAL VS SALINE EXTINCTION FOLLOWING DIFFERENT MAGNITUDES OF CONSISTENT REINFORCEMENT. 078449 13-04
- DETERMINATION OF THE COMPONENTS OF A COMBINED PREPARATION OF GLUTETHIMIDE, AMOBARBITAL AND PROMETHAZINE IN AUTOPSY MATERIAL FROM SEVERAL SUICIDES. 089151 13-15
- AMOBARBITAL AND THE PARTIAL REINFORCEMENT EFFECT IN RATS: ISOLATING FRUSTRATIVE CONTROL OVER INSTRUMENTAL RESPONDING. 097414 13-14

- GLOBAL RATINGS COMPARED TO RATING SCALES IN EVALUATING TRIFLUOPERAZINE AMOBARBITAL IN ANXIOUS PSYCHONEUROTIC OUTPATIENTS. 098093 13-10
- EEG PROFILES OF FENFLURAMINE, AMOBARBITAL AND DEXTROAMPHETAMINE IN NORMAL VOLUNTEERS. 107630 13-16
- AMP**
- CLINICAL EFFECTIVENESS OF CLOZAPINE (INVESTIGATION WITH THE AMP SYSTEM). 099030 13-08
- NOREPINEPHRINE STIMULATED INCREASE OF CYCLIC AMP LEVELS IN DEVELOPING MOUSE BRAIN CELL CULTURES. 100103 13-03
- AMPHETAMINE**
- ENHANCED AMPHETAMINE RESPONSES AFTER FRONTAL CORTEX LESIONS IN THE RAT. 073309 13-04
- SOME NEUROLOGICAL EFFECTS OF AMPHETAMINE, METHYLAMPHETAMINE AND P-BROMOMETHYLAMPHETAMINE IN THE RAT. 074843 13-03
- A NOTE ON THE INFLUENCE OF DIET IN WEST AFRICA ON URINARY PH AND EXCRETION OF AMPHETAMINE IN MAN. 077904 13-13
- METABOLIC FATE OF AMPHETAMINE IN THE CAT DURING DEVELOPMENT OF TOLERANCE. 077990 13-03
- EFFECTS OF LEARNING, AMPHETAMINE AND NICOTINE ON THE LEVEL AND SYNTHESIS OF BRAIN NORADRENALINE IN RATS. 078012 13-03
- ENHANCEMENT OF AMPHETAMINE INDUCED STEREOTYPED BEHAVIOR BY BENZODIAZEPINES. 078936 13-04
- COMPARATIVE STUDIES OF VARIOUS AMPHETAMINE ANALOGUES DEMONSTRATING DIFFERENT INTERACTIONS WITH THE METABOLISM OF THE CATECHOLAMINES IN THE BRAIN. 079069 13-04
- EFFECT OF AMMONIUM CHLORIDE ON THE POTENTIATION OF AMPHETAMINE BY PSYCHOTROPIC DRUGS IN THE RAT. 082793 13-03
- SCREENING FOR AMPHETAMINE IN HUMAN URINE. 082816 13-06
- AMPHETAMINE BARBITURATE MIXTURES: LEARNING AND RETENTION IN RATS. 086771 13-04
- COMPARATIVE EFFECTS OF P-CHLOROAMPHETAMINE AND AMPHETAMINE ON METABOLISM AND IN VIVO RELEASE OF 3H-NOREPINEPHRINE IN THE HYPOTHALAMUS. 086814 13-03
- AMPHETAMINE TOXICITY IN GENETICALLY AGGRESSIVE AND NONAGGRESSIVE MICE. 087119 13-05
- EFFECTS OF ACUTE AND CHRONIC AMPHETAMINE INTOXICATION ON BRAIN CATECHOLAMINES IN THE GUINEA-PIG. 088539 13-03
- FACTORS AFFECTING BEHAVIOR MAINTAINED BY RESPONSE CONTINGENT INTRAVENOUS INFUSIONS OF AMPHETAMINE IN SQUIRREL MONKEYS. 089060 13-04
- PHYSIOLOGIC, SUBJECTIVE AND BEHAVIORAL EFFECTS OF AMPHETAMINE, METHAMPHETAMINE, EPHEDRINE, PHENMETRAZINE, AND METHYLPHENIDATE IN MAN. 095003 13-13
- CLINICAL TRIALS OF A GENUINE ANTIDEPRESSIVE AMPHETAMINE: THE D-1-PARA-CHLORO-N-METHYLAMPHETAMINE. 097798 13-11
- AMPHETAMINE WITHDRAWAL: DEPRESSION AND M.H.P.G. EXCRETION. 098921 13-15
- THE RELATIONSHIP BETWEEN THE INHIBITION OF DOPAMINE UPTAKE AND THE ENHANCEMENT OF AMPHETAMINE STEREOTYPY. 100566 13-03
- THE INFLUENCE OF NEUROLEPTIC AND THYMOLEPTIC DRUGS ON STEREOTYPES INDUCED BY AMPHETAMINE AND APOMORPHINE. 102186 13-04
- EFFECTS OF AMPHETAMINE AND CHLORPROMAZINE ON SECOND-ORDER ESCAPE BEHAVIOR IN SQUIRREL MONKEYS. 102189 13-04
- THE BEHAVIOURAL EFFECTS OF LEVALLORPHAN, CYPRENORPHINE (M-285) AND AMPHETAMINE ON REPEATED Y-MAZE PERFORMANCE IN RATS. 102190 13-04
- COMPARATIVE PSYCHOTOMIMETIC EFFECTS OF STEREOISOMERS OF AMPHETAMINE. 102535 13-12
- THE EFFECT OF PRE- AND POST-TRIAL AMPHETAMINE INJECTIONS ON AVOIDANCE RESPONSES OF RATS. 103944 13-04
- A COMPARATIVE STUDY OF THE THERAPEUTIC EFFECTS OF SOME 4-CHLORINATED AMPHETAMINE DERIVATIVES IN DEPRESSIVE PATIENTS. 103955 13-13
- EFFECTS OF ALPHA-METHYLTYROSINE AND ADRENERGIC BLOCKING AGENTS ON THE FACILITATING ACTION OF AMPHETAMINE AND NICOTINE ON LEARNING IN RATS. 104373 13-04
- DOSE RESPONSE AND BIASED SET STUDY OF AN AMPHETAMINE AND A BARBITURATE. 104379 13-16
- LYSERGIC ACID DIETHYLAMIDE, AMPHETAMINE AND CHLORPROMAZINE ON WATER MAZE DISCRIMINATION IN MICE. 104812 13-04
- BLOCKADE OF INTRAVENOUS AMPHETAMINE EUPHORIA IN MAN. 105083 13-13
- EFFECTS OF APOMORPHINE AND AMPHETAMINE IN RATS WITH A PERMANENT CATALEPSY INDUCED BY DIENCEPHALIC LESION. PHARMACOLOGY. 105118 13-03
- EFFECT OF AMPHETAMINE ON THE UPTAKE, RELEASE AND EFFECTIVENESS OF XYLOCHOLINE IN THE GUINEA-PIG VAS-DEFERENS. 105411 13-03
- 4-BROMO-2,5 DIMETHOXYPHENYLISOPROPYLAMINE, A NEW CENTRALLY ACTIVE AMPHETAMINE ANALOG. 105535 13-07
- DIURNAL VARIATION OF HEPATIC AMPHETAMINE CONCENTRATIONS IN MICE FED FREELY AND FED SINGLE DAILY MEALS. 106425 13-03
- EFFECT OF NEUROLEPTICS ON BRAIN AMPHETAMINE CONCENTRATIONS IN THE RAT. 106428 13-03
- SENSORY INFLUENCES UPON AMPHETAMINE TOLERANCE. 106694 13-04
- ONTOGENY OF AMPHETAMINE ANOREXIA AND INSULIN HYPERPHAGIA IN THE RAT. 106797 13-04
- THE EFFECT OF DIETHYLDITHIOCARBAMATE ON AMPHETAMINE INDUCED BEHAVIOR IN RATS. 106910 13-04
- THE CENTRALLY INDUCED FALL IN BLOOD PRESSURE AFTER THE INFUSION OF AMPHETAMINE AND RELATED DRUGS INTO THE VERTEBRAL ARTERY OF THE CAT. 106911 13-03
- FACILITATORY EFFECTS OF AMPHETAMINE ON LEARNING AND RECALL OF AN AVOIDANCE RESPONSE IN RATS. 107943 13-04
- PHENYLACETONE OXIME - AN INTERMEDIATE IN THE OXIDATIVE DEAMINATION OF AMPHETAMINE. 108398 13-03
- EFFECT OF SOME AMPHETAMINE ANALOGUES ON ALPHA-METHYL-P-TYROSINE INDUCED CATALEPSY IN RATS. 108797 13-03
- EFFECT OF P-CHLOROPHENYLALANINE ON AVOIDANCE CONDITIONING AND ITS INTERACTION WITH AMPHETAMINE. 110960 13-03
- EFFECTS OF AMPHETAMINE ON SINGLE CELL ACTIVITY IN A CATECHOLAMINE NUCLEUS, THE LOCUS COERULEUS. 111661 13-03
- POTENTIATION OF AMPHETAMINE INDUCED AROUSAL BY STARVATION. 114515 13-04
- THE INFLUENCE OF ADRENERGIC RECEPTOR BLOCKING AGENTS, AMPHETAMINE, AND 6-AMINONICOTINAMIDE ON THERMOREGULATION. 119553 13-03
- INTERACTION OF AMPHETAMINE AND FOOD DEPRIVATION ON A FOOD MOTIVATED OPERANT. 120960 13-04
- ANALYSIS OF THE SUPERSENSITIVITY TO NORADRENALINE INDUCED BY AMPHETAMINE IN THE ISOLATED VAS-DEFERENS OF THE RAT. 121065 13-03
- HEXOBARBITAL SLEEPING TIME AND AMPHETAMINE MOTILITY AFTER SUBCHRONIC TETRAHYDROCANNABINOL TREATMENT. 123284 13-03
- PHARMACOLOGICAL BLOCKADE OF AMPHETAMINE EFFECTS IN SUBJECTS DEPENDENT ON CENTRAL STIMULANTS. 123292 13-13
- THE BEHAVIORAL EFFECTS OF A NEW PSYCHOACTIVE DRUG (D-CARBINE) ON A PASSIVE AVOIDANCE RESPONSE AND LOCOMOTION AND ITS INTERACTION WITH AMPHETAMINE. 124104 13-02
- THE INFLUENCE OF PROLONGED AMPHETAMINE TREATMENT AND AMPHETAMINE WITHDRAWAL ON BRAIN BIOGENIC AMINE CONTENT AND BEHAVIOUR IN THE RAT. 125163 13-03
- A MECHANISM FOR THE DEVELOPMENT OF TOLERANCE TO AMPHETAMINE IN RATS. 125166 13-03

# Subject Index

# Psychopharmacology Abstracts

- RELATIVE POTENCY OF AMPHETAMINE DERIVATIVES AND N, N-DESMETHYLTRYPTAMINES. 125250 13-04
- AMPHETAMINE TETRAZOLIUM REDUCTASE ACTIVITY IN BRAIN. 125411 13-03
- INFLUENCE OF AMPHETAMINE ON THE PATHOLOGICAL STATE OF THE RAT BRAIN. 125422 13-05
- AMPHETAMINE-LIKE**  
ACTIONS OF DEXAMPHETAMINE AND AMPHETAMINE-LIKE AMINES IN CHICKENS WITH BRAIN TRANSECTIONS. 109194 13-03
- AMPHETAMINES**  
METABOLISM OF AMPHETAMINES TO OXIMES AS A ROUTE TO DEAMINATION. 087115 13-03
- PANEL SANCTIONS AMPHETAMINES FOR HYPERKINETIC CHILDREN. 089087 13-14
- A CLINICAL VIEW OF THE AMPHETAMINES. 103172 13-17
- AMPHETAMINES IN HYPERKINESIA: BETTER LEARNING THROUGH CHEMISTRY. 105485 13-14
- MORPHINE WITHDRAWAL AGGRESSION: SENSITIZATION BY AMPHETAMINES. 111142 13-04
- AMPLITUDE**  
STATISTICAL AMPLITUDE ANALYSIS OF THE INTEGRATED ELECTROCORTICOGRAM OF UNRESTRAINED RATS BEFORE AND AFTER PROCHLORPERMAZINE. 082863 13-03
- AMPULLIZED**  
USE OF AMPULLIZED SEDUXEN IN TREATMENT OF EPILEPTIC STATUS. 113747 13-11
- AMYGDALO-HIPPOCAMPAL**  
EFFECTS ON THE AMYGDALO-HIPPOCAMPAL EVOKED POTENTIAL IN THE CAT OF FOUR BENZODIAZEPINES AND SOME OTHER PSYCHOTROPIC DRUGS. 125960 13-03
- AMYLOBARBITONE**  
SODIUM AMYLOBARBITONE, THE PARTIAL REINFORCEMENT EXTINCTION EFFECT, AND THE FRUSTRATION EFFECT IN THE DOUBLE RUNWAY. 082859 13-04
- PYREXIA AND RAISED SERUM CREATINE PHOSPHOKINASE AFTER AMYLOBARBITONE. 086511 13-15
- MEDAZEPAM COMPARED WITH AMYLOBARBITONE IN TREATMENT OF ANXIETY. 088243 13-10
- INFLUENCE OF PH ON AGGREGATION AND PROTEIN BINDING OF BARBITURIC ACID AND AMYLOBARBITONE. 089049 13-03
- EFFECTS OF AMYLOBARBITONE AND NITRAZEPAM ON THE ELECTRODERMOGRAM AND OTHER FEATURES OF SLEEP. 099118 13-14
- EXTINCTION OF FEAR I: EFFECTS OF AMYLOBARBITONE AND DEXAMPHETAMINE GIVEN SEPARATELY AND IN COMBINATION ON FEAR AND EXPLORATORY BEHAVIOUR IN RATS. 104827 13-04
- JOINT EFFECTS OF MEDIAL SEPTAL LESIONS AND AMYLOBARBITONE INJECTIONS ON RESISTANCE TO EXTINCTION IN THE RAT. 106392 13-04
- THE EXCRETION OF HYDROXYAMYLOBARBITONE IN MAN AFTER ORAL ADMINISTRATION OF AMYLOBARBITONE AND HYDROXYAMYLOBARBITONE. 122552 13-13
- AMYOTROPHIC**  
AMYOTROPHIC LATERAL SCLEROSIS: METABOLISM OF CENTRAL MONOAMINES AND TREATMENT WITH L-DOPA (UNPUBLISHED PAPER). 093081 13-13
- AMYTAL**  
AMYTAL AND THE SMALL TRIAL PARTIAL REINFORCEMENT EFFECT: STIMULUS PROPERTIES OF EARLY TRIAL NONREWARDS. 078938 13-04
- DYSNOMIA AND IMPAIRMENT OF VERBAL MEMORY FOLLOWING INTRACAROTID INJECTION OF SODIUM AMYTAL. 092159 13-14
- DEPRESSION AND CEREBRAL DOMINANCE: A STUDY OF BILATERAL INTRACAROTID AMYTAL IN ELEVEN DEPRESSED PATIENTS. 093815 13-09
- ANABOLIC**  
ANABOLIC ACTION AND SIDE-EFFECTS OF OXANDROLONE IN 34 MENTAL PATIENTS. 088629 13-15
- ANAFRANIL**  
RESULTS OF ADMINISTRATION OF ANAFRANIL IN ENDOGENOUS DEPRESSIVE SYNDROMES. 125786 13-09
- ANALGESIA**  
THE EFFECT OF P-CHLOROPHENYLALANINE ON OPIATE INDUCED RUNNING, ANALGESIA, TOLERANCE AND PHYSICAL DEPENDENCE IN MICE. 082781 13-04
- STRUCTURE ACTIVITY RELATIONSHIPS OF NORMEPERIDINE CONGENERS ON CHOLINESTERASE SYSTEMS IN VITRO AND ANALGESIA IN VIVO. 086822 13-03
- INCREASE OF MORPHINE INDUCED ANALGESIA BY STIMULATION OF THE NUCLEUS RAPHE DORSALIS. 125633 13-03
- ANALGESIC**  
PHARMACOLOGIC STUDIES WITH ABBOTT-30360, AN ANALGESIC TRANQUILIZER, AND ITS ANALOGUES. 077991 13-02
- STUDIES ON ANALGESIC EFFECTS OF MAO INHIBITORS. 100506 13-03
- ANALGESIC ACTIVITY OF ORAL AND INTRAMUSCULAR PROFADOL. 104366 13-11
- THE EFFECT OF DRUGS INFLUENCING AMINE SYNTHESIS ON THE ANALGESIC ACTION OF TREMORINE. 104804 13-03
- ANALGESICS**  
ANALGESICS AND PSYCHOTROPIC DRUGS IN THE MANAGEMENT OF DISEASE OF THE GUT. 087867 13-17
- EFFECTS OF OPIOID ANALGESICS AND ANTAGONISTS ON THE EEG (UNPUBLISHED PAPER). 088360 13-14
- ACTIONS OF MORPHINE AND NARCOTIC ANTAGONIST ANALGESICS ON THE SPINAL CORD OF ACUTE AND CHRONIC SPINAL RATS. 098305 13-03
- DRUG INTERFERENCE WITH MEASUREMENT OF ADRENAL HORMONES IN URINE: ANALGESICS AND TRANQUILIZER SEDATIVES. 104427 13-13
- EFFECTS OF NARCOTIC ANALGESICS AND ANTAGONISTS ON THE IN VIVO RELEASE OF ACETYLCHOLINE FROM THE CEREBRAL CORTEX OF THE CAT. 104537 13-03
- ACTIVITY OF MAJOR ANALGESICS ON MOTOR NOCICEPTIVE RESPONSES IN DECEREBRATE MICE. 105010 13-03
- INCREASED TOXICITY OF MORPHINE-LIKE ANALGESICS IN AGGREGATED MICE. 106845 13-05
- EFFECTS OF SOME NARCOTIC ANALGESICS AND RELATED COMPOUNDS UPON THE EXTENSOR MONOSYNAPTIC REFLEX INHIBITION FROM CUTANEOUS NERVE AND HIGH THRESHOLD MUSCLE AFFERENTS. 125324 13-03
- EFFECTS OF SOME NARCOTIC ANALGESICS UPON THE MONOSYNAPTIC REFLEX INHIBITION FROM MUSCULAR AND CUTANEOUS AFFERENTS IN SPINAL CORD OF THE CAT. 125327 13-03
- MENTAL STATES FOLLOWING PREMEDICATION WITH NEUROLEPTICS AND ANALGESICS. 125772 13-14
- ANALOG**  
EEG CHANGES AFTER FLUPHENAZINE EMANATHATE AND DECANOATE BASED ON ANALOG POWER SPECTRA AND DIGITAL COMPUTER PERIOD ANALYSIS. 105009 13-13
- 4-BROMO-2,5 DIMETHOXYPHENYLISOPROPYLAMINE, A NEW CENTRALLY ACTIVE AMPHETAMINE ANALOG. 105535 13-07
- ANALOGS**  
STRUCTURAL ANALOGS OF LYSERGIC ACID. 086796 13-01
- ANXIOLYTIC SEDATIVES. I. SYNTHESIS AND PHARMACOLOGY OF BENZODIAZEPINODIAZOLE DERIVATIVES AND ANALOGS. 114765 13-01
- ANALOGUE**  
EVALUATION OF THE ANTIPSYCHOTIC ACTIVITY OF AN INDOLE ANALOGUE, AL-1612. 100540 13-08
- PHARMACOLOGICAL STUDIES ON NEW POTENT CENTRAL DEPRESSANTS, 8-CHLORO-6-PHENYL-4H-S-TRIAZOLOBENZODIAZEPINE (D-407A) AND ITS 1 METHYL ANALOGUE (D-65MT). 105392 13-02
- ANALOGUES**  
PHARMACOLOGIC STUDIES WITH ABBOTT-30360, AN ANALGESIC TRANQUILIZER, AND ITS ANALOGUES. 077991 13-02
- COMPARATIVE STUDIES OF VARIOUS AMPHETAMINE ANALOGUES DEMONSTRATING DIFFERENT INTERACTIONS WITH THE METABOLISM OF THE CATECHOLAMINES IN THE BRAIN. 079049 13-04
- LOCUS OF CENTRAL DEPRESSANT ACTION OF SOME BENZODIAZEPINE ANALOGUES. 089285 13-03

- N-SUBSTITUTED ANALOGUES OF NEUROLEPTICS OF THE OCTOCLOTHEPIN SERIES: RELATIONS BETWEEN STRUCTURE AND ACTIVITY.** 105824 13-02
- THE MECHANISM OF THE PUSH AND PULL PRINCIPLE. VIII: ENDOCRINE EFFECTS OF THALIDOMIDE AND ITS ANALOGUES.** 106146 13-03
- EFFECT OF SOME AMPHETAMINE ANALOGUES ON ALPHA-METHYL-P-TYROSINE INDUCED CATALEPSY IN RATS.** 108797 13-03
- ANALYSES**
- USE OF CERIC SULFATE AND CUPRIC PERCHLORATE FOR TITRIMETRIC ANALYSES OF PHENOTHIAZINE DERIVATIVES.** 082763 13-06
- ANALYSIS**
- STATISTICAL AMPLITUDE ANALYSIS OF THE INTEGRATED ELECTROCARDIOGRAM OF UNRESTRAINED RATS BEFORE AND AFTER PROCHLORPERAZINE.** 082863 13-03
- QUANTITATIVE EEG ANALYSIS OF SINGLE-DOSE EFFECT RELATIONSHIPS IN NORMAL VOLUNTEERS OF PACINOX (CAPURIDE), A NEW ANTIANXIETY DRUG.** 087487 13-10
- AN EXPERIMENTAL ANALYSIS OF THE PLACEBO EFFECT.** 094921 13-06
- APPROACHES TO MEASURING THE EFFICACY OF DRUG TREATMENT OF PERSONALITY DISORDERS: AN ANALYSIS AND PROGRAM.** 095542 13-10
- A PHARMACOKINETIC ANALYSIS OF LITHIUM CARBONATE ABSORPTION FROM SEVERAL FORMULATIONS IN MAN.** 100258 13-07
- ON THE ANALYSIS OF SIDE (NEUROLEPTIC) MANIFESTATIONS IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS WITH MAJEPTIL.** 102657 13-08
- GAS CHROMATOGRAPHIC ANALYSIS OF CHLORPROMAZINE AND ITS METABOLITES FORMED BY HEPATIC MICROSOMES - I. INFLUENCE OF MAGNESIUM.** 102695 13-03
- A PSYCHOPHARMACOLOGICAL ANALYSIS OF BEHAVIOUR IN RATS.** 102884 13-04
- ANALYSIS OF THE EFFECTS OF ARGININE N-ACETYLSPARAGINATE ON THE CENTRAL NERVOUS SYSTEM.** 103653 13-03
- DOSE RESPONSE ANALYSIS OF THE EFFECTS OF TETRAHYDROCANNABINOL IN MAN.** 104362 13-12
- EEG CHANGES AFTER FLUPHENAZINE ENANTHATE AND DECANOATE BASED ON ANALOG POWER SPECTRA AND DIGITAL COMPUTER PERIOD ANALYSIS.** 105009 13-13
- ANALYSIS OF THE ACQUISITION AND EXTINCTION OF FOOD REINFORCED BEHAVIOR IN RATS AFTER THE ADMINISTRATION OF CHLORPROMAZINE.** 105012 13-04
- AN ANALYSIS OF THE EFFECTS OF METHAQUALONE AND GLUTETHIMIDE ON SLEEP IN INSOMNIAC SUBJECTS.** 105119 13-14
- NEUROPHARMACOLOGIC ANALYSIS OF AHR-2277: A NEW PSYCHOTHERAPEUTIC AGENT.** 106154 13-02
- ANALYSIS OF THE CENTRAL EFFECT OF TRYPTAMINE AND N,N-DIMETHYLTRYPTAMINE.** 111132 13-03
- EEG FREQUENCY ANALYSIS IN THE TREATMENT WITH SOME ANTIDEPRESSANT DRUGS: (IMIPRAMINE, AMITRIPTYLINE, DIBENZEPINE, DIMETHACRINE).** 112289 13-09
- ANALYSIS OF THE SUPERSENSITIVITY TO NORADRENALINE INDUCED BY AMPHETAMINE IN THE ISOLATED VAS-DEFERENS OF THE RAT.** 121065 13-03
- A NEW GAS CHROMATOGRAPHIC METHOD FOR THE DEMONSTRATION OF CANNABIS INTAKE BY ANALYSIS OF BIOLOGICAL FLUIDS.** 123265 13-06
- ANALYZED**
- DIGITAL COMPUTER ANALYZED RESTING AND SLEEP EEG INVESTIGATIONS AND CLINICAL CHANGES DURING MOLINDONE TREATMENT.** 107244 13-08
- ANAPHYLACTIC**
- PRODUCTION OF LOCAL ANAPHYLACTIC REACTIONS AS AN ATTEMPT TO TREAT DEPRESSIVE PSYCHOSES.** 087035 13-07
- ANATOMICALLY**
- INVESTIGATIONS ON THE ELECTROLYTE CONTENTS OF ANATOMICALLY DEFINED PARTS OF THE BRAIN IN NORMAL AND LITHIUM - TREATED RATS.** 123279 13-03
- ANDROSTENEDIONE**
- NEONATAL ADMINISTRATION OF ANDROSTENEDIONE, TESTOSTERONE OR TESTOSTERONE PROPIONATE. EFFECTS ON OVULATION, SEXUAL RECEPTIVITY AND AGGRESSIVE BEHAVIOR IN FEMALE MICE.** 088581 13-04
- ANESTHESIA**
- EFFECTS OF HALOTHANE ANESTHESIA ON THE RETENTION OF A PASSIVE AVOIDANCE TASK IN RATS.** 078448 13-04
- SUPPRESSION OF FIGHTING BEHAVIOUR IN RABBITS BY PAIRED EMERGENCE FROM ANESTHESIA.** 095364 13-04
- THE INFLUENCE OF BARBITURATE ANESTHESIA UPON THE ENERGY STATE AND UPON ACID BASE PARAMETERS OF THE BRAIN IN ARTERIAL HYPOTENSION AND IN ASPHYXIA.** 095999 13-03
- CHANGES IN FREE FATTY ACIDS OF BRAIN BY DRUG-INDUCED CONVULSIONS, ELECTROSHOCK AND ANESTHESIA.** 100868 13-03
- EFFECTS OF OXAZOLAM AS A MEDICATION BEFORE ANESTHESIA.** 123046 13-14
- EFFECTS OF OXAZOLAM AS A MEDICATION BEFORE ANESTHESIA.** 123047 13-13
- CHANGES IN A HEXOBARBITAL ANESTHESIA THRESHOLD IN RATS INDUCED BY REPEATED LONG-TERM TREATMENT WITH BARBITAL OR ETHANOL.** 125248 13-03
- ANESTHETIC**
- EFFECT OF ANESTHETIC DOSES OF GAMMA-HYDROXYBUTYRATE ON SUBCORTICAL CONCENTRATION OF HOMOVANILIC ACID.** 086813 13-03
- BEHAVIORAL CONTRAST: AN UNLOCALIZED EFFECT OF A LOCAL ANESTHETIC.** 106688 13-04
- EFFECT OF ANESTHETIC DRUGS ON TIME PRODUCTION AND ALPHA RHYTHM.** 111839 13-14
- ANESTHETICS**
- NEUROPHYSIOLOGICAL EFFECTS OF DIFFERENT ANESTHETICS IN UNCONSCIOUS MAN.** 111343 13-13
- NEUROPHYSIOLOGICAL EFFECTS OF DIFFERENT ANESTHETICS IN CONSCIOUS MAN.** 111344 13-13
- THE EFFECT OF LOCAL ANESTHETICS ON THE CENTRAL NERVOUS SYSTEM TOXICITY OF HYPERBARIC OXYGEN.** 122540 13-03
- ANESTHETIZED**
- CARDIOVASCULAR EFFECTS OF INTRAVENOUS MORPHINE IN THE ANESTHETIZED RAT.** 079063 13-03
- THE TOXICITY OF TWO MAO INHIBITORS COMBINED WITH 5-HTP OR L-DOPA IN ANESTHETIZED MICE.** 103314 13-05
- ANGIOGRAPHY**
- NEUROLEPTANALGESIA IN BILATERAL SIMULTANEOUS CAROTID ANGIOGRAPHY.** 102281 13-14
- ANGIOTENSIN**
- EFFECT OF ATROPINE ON DRINKING INDUCED BY CARBACHOL, ANGIOTENSIN AND ISOPROTERENOL.** 101966 13-04
- CONDITIONED DRINKING PRODUCED BY PROCAINE, NaCl, AND ANGIOTENSIN.** 102540 13-04
- ANHYDRASE**
- STUDIES ON THE FUNCTIONAL SIGNIFICANCE OF CARBONIC ANHYDRASE IN CENTRAL NERVOUS SYSTEM.** 092158 13-03
- ANIMAL**
- CL-67772: A PRELIMINARY EVALUATION OF A POTENTIAL ANTIDEPRESSANT COMPOUND: ANIMAL AND HUMAN CORRELATIONS.** 086893 13-11
- METABOLIC ASPECTS OF AMINO ACID LOADING AND DRUG ADMINISTRATION IN ANIMAL STUDIES. AFFECTIVE ILLNESSES.** 099335 13-03
- CORRELATION BETWEEN THE EXPERIMENTAL DATA FROM ANIMAL STUDIES AND THERAPEUTICAL EFFECTS OF ANTIDEPRESSANT DRUGS.** 104435 13-09
- THE INFLUENCE OF METHYL SUBSTITUTION ON THE N-DEMETHYLATION AND N-OXIDATION OF NORMETHADONE IN ANIMAL SPECIES.** 106423 13-03
- ANIMAL DISSOCIATED LEARNING AS AFFECTED BY PENTOBARBITAL ADMINISTRATION.** 109736 13-04

# Subject Index

## ANIMALS

- BLOOD-BRAIN BARRIER TO H3-GAMMA-AMINOBUTYRIC ACID IN NORMAL AND AMINOXYACETIC ACID TREATED ANIMALS. 082756 13-03
- BEHAVIOR AND HOW IT IS AFFECTED BY DRUGS IS BEING INVESTIGATED BY THE NORTH-CAROLINA DEPARTMENT OF MENTAL HEALTH BY USING SPIDERS AS LABORATORY ANIMALS. 086126 13-04
- PRECLINICAL STUDIES IN ANIMALS. 097914 13-04
- PSYCHOTOMIMETIC COMPOUNDS IN MAN AND ANIMALS. 099337 13-12
- METABOLISM OF THE ANTICONVULSANT 10,11-DIHYDRO-5H-DIBENZO(A,D) CYCLOHEPTENE-5-CARBOXYAMIDE - I. METABOLIC FATE OF (14C)CYHEPTAMIDE IN ANIMALS AND MAN. 102735 13-13
- DIFFERENTIAL ACTIVITY OF SOME PSYCHOTROPIC DRUGS AS A FUNCTION OF EMOTIONAL LEVEL IN ANIMALS. 103952 13-04
- EFFECT OF PUROMYCIN AND ACTINOMYCIN-D INJECTION INTO THE MESENCEPHALIC RETICULAR FORMATION ON THE CONDITIONED REFLEXES OF ANIMALS. 113758 13-04
- THE SAFETY TEST OF 10-CHLORO-11B-(2-CHLOROPHENYL) 2,3,5,6,7,11B-HEXAHYDROBENZOC(6,7) 1,4 DIAZEPINOXAZOLONE (CS-370) - II. EFFECT OF CS-370 UPON THE DEVELOPMENT OF PRE-NATAL AND POST-NATAL OFFSPRINGS OF EXPERIMENTAL ANIMALS. 116154 13-03
- STUDIES OF THE SPONTANEOUS MOVEMENT OF ANIMALS BY THE HOLE CROSS TEST, EFFECT OF 2-DIMETHYLAMINOETHANOL AND ITS ACYL ESTERS ON THE CENTRAL NERVOUS SYSTEM. 120930 13-03
- THE UPTAKE OF MORPHINE BY THE CHOROID PLEXUS AND CEREBRAL CORTICAL SLICES OF ANIMALS CHRONICALLY TREATED WITH MORPHINE. 122543 13-03
- ANORECTIC**
- COMPARATIVE EFFECTS OF TEN ANORECTIC DRUGS ON SLEEP WAKEFULNESS PATTERNS IN CATS. 104174 13-04
- ON THE ROLE OF NOREPINEPHRINE IN THE ANORECTIC EFFECT OF D-AMPHETAMINE IN MICE. 104326 13-03
- ANOREXIA**
- NOREPINEPHRINE: REVERSAL OF ANOREXIA IN RATS WITH LATERAL HYPOTHALAMIC DAMAGE. 077680 13-04
- ONTOGENY OF AMPHETAMINE ANOREXIA AND INSULIN HYPERPHAGIA IN THE RAT. 106797 13-04
- ANOREXIA-NERVOSA**
- ANOREXIA-NERVOSA, ITS PSYCHIATRIC, INTERNAL AND SURGICAL PROBLEMS. 087042 13-10
- MANAGEMENT AND PROGNOSIS OF SO-CALLED ANOREXIA-NERVOSA. 122939 13-10
- ANOREXIC**
- THE ROLE OF BRAIN NOREPINEPHRINE IN THE ANOREXIC EFFECTS OF DEXTROAMPHETAMINE AND MONOAMINE OXIDASE INHIBITORS IN THE RAT. 104574 13-03
- DOUBLE-BLIND STUDY OF THE OREXIGENIC EFFECT OF A SEROTONIN INHIBITOR IN ANOREXIC CHILDREN. 125289 13-13
- ANOREXIGENIC**
- FENFLURAMINE, A NEW ANOREXIGENIC AGENT. 074150 13-07
- ANTABUSE**
- PERIPHERAL NEUROPATHY CAUSED BY ANTABUSE. 075092 13-13
- ANTAGONISM**
- MECHANISM OF THE ANTAGONISM BY 5-HYDROXYTRYPTAMINE OF THE TOXICITY DUE TO CERTAIN CHOLINERGIC BLOCKING AGENTS. 086898 13-03
- DRUG ANTAGONISM. 098143 13-11
- DIFFERENTIAL ANTAGONISM BETWEEN DMAE (A HEMICHOLINIUM DERIVATIVE) AND ATROPINE ON CONTRACTILE RESPONSES OF THE RAT ILEUM. 104327 13-03
- ANTAGONISM OF D-AMPHETAMINE INDUCED HYPERTHERMIA IN RATS BY PIMOZIDE. 104472 13-03
- ANTAGONISM OF INTRACEREBRALLY INDUCED NICOTINIC CONVULSIONS IN MICE: A METHOD FOR MEASURING THE CENTRAL ANTIMICOTINIC ACTIVITY OF CNS ACTING AGENTS. 104807 13-06

# Psychopharmacology Abstracts

- A STUDY OF THE LEVOMEPROMAZINE THIOPROPERAZINE ANTAGONISM ON THE EXTRAPYRAMIDAL SYSTEM. 105674 13-08
- MIANSERIN HYDROCHLORIDE: PERIPHERAL AND CENTRAL EFFECTS IN RELATION TO ANTAGONISM AGAINST 5-HYDROXYTRYPTAMINE AND TRYPTAMINE. 107160 13-03
- PARTIAL ANTAGONISM BY EXOGENOUS CALCIUM OF THE DEPRESSANT EFFECT OF RESERPINE IN RAT SHUTTLE-BOX BEHAVIOR. 117580 13-03
- THE APOMORPHINE ANTAGONISM TEST IN DOGS: EXPERIMENTAL EVIDENCE AND CRITICAL CONSIDERATIONS ON SPECIFIC METHODOLOGICAL CRITERIA. 121221 13-06
- ANTAGONISM BY PROPRANOLOL OF THE INHIBITORY EFFECT OF PHENOXYBENZAMINE ON NORADRENALINE UPTAKE IN VIVO. 122553 13-03
- METHYLPHENIDATE ANTAGONISM IN MICE AS A RAPID SCREENING TEST FOR NEUROLEPTIC DRUGS. 123275 13-04
- ANTAGONIST**
- ACTIONS OF MORPHINE AND NARCOTIC ANTAGONIST ANALGESICS ON THE SPINAL CORD OF ACUTE AND CHRONIC SPINAL RATS. 098305 13-03
- EFFECTS OF SOME SYMPATHOMIMETIC DRUGS AND THEIR ANTAGONIST ON AFTERDISCHARGES ELICITED IN CHRONICALLY ISOLATED SLABS OF CEREBRAL CORTEX. 108793 13-03
- ANTAGONISTIC**
- COMPOUNDS ANTAGONISTIC TO NOREPINEPHRINE RETENTION BY RAT BRAIN HOMOGENATES. 108289 13-03
- ANTAGONISTS**
- EFFECTS OF OPIOID ANALGESICS AND ANTAGONISTS ON THE EEG (UNPUBLISHED PAPER). 088360 13-14
- PROGRESS REPORT ON THE ASSESSMENT OF THE ANTAGONISTS NALBUPHINE AND GPA-2087 FOR ABUSE POTENTIAL AND STUDIES OF THE EFFECTS OF DEXTROMETHORPHAN IN MAN (UNPUBLISHED PAPER). 094938 13-13
- INTERACTION OF SEROTONIN ANTAGONISTS WITH HARMALINE INDUCED CHANGES IN OPERANT BEHAVIOR AND BODY TEMPERATURE IN THE RAT. 098160 13-03
- EFFECTS OF NARCOTIC ANALGESICS AND ANTAGONISTS ON THE IN VIVO RELEASE OF ACETYLCHOLINE FROM THE CEREBRAL CORTEX OF THE CAT. 104537 13-03
- PHARMACOLOGY OF NARCOTICS AND ANTAGONISTS AS RELATED TO DRUG ABUSE. 116814 13-13
- ANTI-ALCOHOL**
- ANTI-ALCOHOL EFFECTS OF SOME ETHANOLAMINE PREPARATIONS. 105907 13-03
- ANTI-ADRENERGIC**
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHENIN. IV. ANTI-ADRENERGIC ACTION AND INFLUENCE ON BRAIN MONOAMINES. 105841 13-03
- ANTI-ANDROGEN**
- CLINICAL AND EXPERIMENTAL PSYCHOLOGICAL INVESTIGATIONS OF THE EFFECT OF ANTI-ANDROGEN CYPROTERONE ACETATE IN SLIGHTLY IRRESPONSIBLE AND GROSSLY IRRESPONSIBLE SEXUAL DELINQUENTS. 088693 13-11
- ANTI-ANDROGEN THERAPY WITH CYPROTERONE ACETATE IN CHILD AND ADOLESCENT PSYCHIATRY. AN OVERVIEW OF RESULTS ACHIEVED. 125703 13-11
- ANTI-ANXIETY**
- QUANTITATIVE EEG ANALYSIS OF SINGLE-DOSE EFFECT RELATIONSHIPS IN NORMAL VOLUNTEERS OF PACINOX (CAPURIDE), A NEW ANTI-ANXIETY DRUG. 087487 13-10
- SCH-12041: A NEW ANTI-ANXIETY AGENT. 097555 13-07
- A SIMPLE AND RELIABLE CONFLICT PROCEDURE FOR TESTING ANTI-ANXIETY AGENTS. 124108 13-04
- ANTIARRHYTHMIC**
- CORRELATION OF CHEMICAL STRUCTURE OF PHENOTHIAZINES WITH THEIR CORONARY DILATOR AND ANTIARRHYTHMIC ACTIVITIES. 120929 13-03
- ANTIBIOTICS**
- A STUDY OF HOSPITAL STAFF ATTITUDES CONCERNING THE COMPARATIVE MERITS OF ANTIBIOTICS. 069516 13-17

- CROHNS DISEASE, TREATMENT BY CORTICOSTEROIDS, ANTIBIOTICS AND PSYCHOTHERAPY. 100854 13-11
- ANTIBODY**  
THE INFLUENCE OF TREATMENT WITH NEUROLEPTICS UPON THE ANTIBODY FORMATION. 104798 13-13
- ANTICHOLINERGIC**  
THE REVERSAL OF ANTICHOLINERGIC DRUG-INDUCED DELIRIUM AND COMA WITH PHYSOSTIGMINE. 079833 13-14  
SOME ANTICHOLINERGIC LIKE BEHAVIOURAL EFFECTS OF TRANS-( $\Delta$ )- $\Delta$ -TETRAHYDROCANNABINOL. 102243 13-04  
EFFECTS OF SOME ANTICHOLINERGIC DRUGS ON WATER MAZE LEARNED BEHAVIOUR IN MICE. 104794 13-04  
PERIPHERAL EFFECTS OF ANTICHOLINERGIC PSYCHOTOMIMETICS. 105991 13-03  
CENTRAL ANTICHOLINERGIC ACTIVITY OF JB-336. 105993 13-03  
THE INFLUENCE OF ANTICHOLINERGIC HALLUCINOGENS ON SPONTANEOUS AND CONDITIONED BEHAVIOUR IN RATS. 105994 13-04
- ANTICHOLINERGICS**  
THE EFFECT OF ANTICHOLINERGICS ON THE BEHAVIOUR OF THE RAT IN A SOLITARY AND IN A SOCIAL SITUATION. 088730 13-04
- ANTICHOLINESTERASE**  
EFFECT OF ANTICHOLINESTERASE SUBSTANCES ON CHANGES OF CONDITIONED REFLEXES INDUCED BY CHLORPROMAZINE. 111133 13-04
- ANTICONVULSANT**  
SYNTHESIS AND ANTICONVULSANT ACTIVITY OF SUBSTITUTED 2-THIOQUINAZOLIN-4-ONES I. PRELIMINARY STUDIES. 080630 13-02  
UNWANTED EFFECTS OF ANTICONVULSANT DRUGS. 090761 13-15  
ANTICONVULSANT DRUGS, FOLIC ACID METABOLISM, FIT FREQUENCY AND PSYCHIATRIC ILLNESS. 093822 13-15  
FOLIC ACID CONCENTRATIONS IN CEREBROSPINAL FLUID IN RELATION TO ANTICONVULSANT DRUGS AND CEREBRAL ATROPHY. 100809 13-11  
METABOLISM AND ANTICONVULSANT ACTIVITY OF DIAZEPAM IN GUINEA-PIGS. 101701 13-03  
METABOLISM OF THE ANTICONVULSANT 10,11-DIHYDRO-5H-DIBENZO(A,D) CYCLOHEPTENE-5-CARBOXAMIDE - I. METABOLIC FATE OF (14C)CYHEPTAMIDE IN ANIMALS AND MAN. 102735 13-13  
ANTICONVULSANT ACTIVITY AND BRAIN LEVELS OF DIAZEPAM AND ITS METABOLITES IN MICE. 107158 13-03  
ANTICONVULSANT EFFECT OF TRIMETHADIONE IN MICE DURING CONTINUED TREATMENT VIA THE DRINKING WATER. 107945 13-03  
SERUM FOLIC ACID AND PHENYTOIN LEVELS IN PERMANENTLY HOSPITALIZED EPILEPTIC PATIENTS RECEIVING ANTICONVULSANT DRUG THERAPY. 108727 13-15
- ANTICONVULSANTS**  
ARE ANTICONVULSANTS TERATOGENIC 099761 13-15  
ON THE CLINICAL PICTURE OF COMPLICATIONS IN THE TREATMENT OF EPILEPTIC PATIENTS WITH ANTICONVULSANTS. 102829 13-15  
TERATOGENIC EFFECTS OF ANTICONVULSANTS. 105087 13-15
- ANTICONVULSIVE**  
ANTICONVULSIVE SEDATIVE TREATMENT OF DELIRIUM ALCOHOLICUM. 101754 13-11
- ANTIDEPRESSANT**  
PROBLEMS IN THE EVALUATION OF A NEW ANTIDEPRESSANT DRUG IN PRISON VOLUNTEERS. 070714 13-13  
L-TRYPTOPHAN AS AN ANTIDEPRESSANT. 077709 13-03  
AN EXAMINATION OF THE EFFECT OF CENTRAL NERVOUS SYSTEM STIMULANT AND ANTIDEPRESSANT DRUGS ON OPEN-FIELD PERFORMANCE IN RATS. 078937 13-04  
A BRIEF RATING SCALE FOR ANTIDEPRESSANT DRUG TRIALS. 078939 13-06  
EFFECTIVENESS OF ANTIDEPRESSANT DRUGS: A TRIPLE-BLIND STUDY COMPARING IMIPRAMINE, DESIPRAMINE, AND PLACEBO. 079289 13-10
- CHANGES IN NOREPINEPHRINE TURNOVER IN RAT BRAIN DURING CHRONIC ADMINISTRATION OF IMIPRAMINE AND PROTRIPTYLINE: A POSSIBLE EXPLANATION FOR THE DELAY IN ONSET OF CLINICAL ANTIDEPRESSANT EFFECTS. 086251 13-03
- CL-87772: A PRELIMINARY EVALUATION OF A POTENTIAL ANTIDEPRESSANT COMPOUND: ANIMAL AND HUMAN CORRELATIONS. 086893 13-11
- CLINICAL TRIAL OF IMIDAZOLINE (DH-524) AS AN ANTIDEPRESSANT. 086896 13-07
- STUDIES ON THE ANTIDEPRESSANT ACTION OF DOXEPIN (SINEQUAN). 087023 13-09
- CARDIAC COMPLICATIONS OF TRICYCLIC ANTIDEPRESSANT THERAPY. 088986 13-15
- AN UNUSUAL REEVALUATION OF MARSILID AS AN ANTIDEPRESSANT. 089002 13-09
- A CONTROLLED CLINICAL STUDY OF A NEW ANTIDEPRESSANT (TRAZODONE). 089066 13-10
- NOVERIL - AN ANTIDEPRESSANT AGENT. 089301 13-09
- PSYCHOPHARMACOLOGICAL PROFILE OF A POTENTIAL ANTIDEPRESSANT PERTAINING TO THE PYRIDOBENZODIAZEPINE SERIES. 091558 13-02
- CLINICAL EVALUATION OF THE ANTIDEPRESSANT EFFECTS OF DOXEPINE. 093702 13-09
- DRUGS AND THEIR ABUSE: NO. 1 - THE ABUSE OF ANTIDEPRESSANT DRUGS. 095450 13-09
- WHEN IS A TRANQUILLIZER AN ANTIDEPRESSANT 100535 13-10
- DIFFERENTIATION OF TWO GENETICALLY SPECIFIC TYPES OF DEPRESSION BY THE RESPONSE TO ANTIDEPRESSANT DRUGS. 101434 13-10
- COMBINED ANTIDEPRESSANT THERAPY. 101622 13-09
- METABOLISM OF PROPRANOLOL BY RAT LIVER MICROSOMES AND ITS INHIBITION BY PHENOTHIAZINE AND TRICYCLIC ANTIDEPRESSANT DRUGS. 101703 13-03
- PHYSOSTIGMINE THERAPY IN ACUTE TRICYCLIC ANTIDEPRESSANT POISONING. 101864 13-13
- BLOCKADE OF NORADRENALINE UPTAKE BY 34276-BA, A NEW ANTIDEPRESSANT DRUG. 102696 13-03
- EXPLORATION OF THE ANTIDEPRESSANT POTENTIAL OF L-DOPA. 104142 13-04
- CORRELATION BETWEEN THE EXPERIMENTAL DATA FROM ANIMAL STUDIES AND THERAPEUTICAL EFFECTS OF ANTIDEPRESSANT DRUGS. 104435 13-09
- THE EFFECTS OF VARIOUS ANTIDEPRESSANT DRUGS UPON THE TETRAHIAZINE SUPPRESSED CONDITIONED AVOIDANCE RESPONSE IN RATS. 105013 13-04
- ADVERSE REACTIONS AND THE SPECIFICITY OF ANTIDEPRESSANT DRUG EFFECTS. 105277 13-15
- THE EFFECTS OF ANTIDEPRESSANT THERAPY. A FOLLOW-UP STUDY. 105913 13-09
- ANTIDEPRESSANT OVERDOSAGE IN CHILDREN - A NEW MENACE. 108014 13-15
- INDICATIONS FOR TRICYCLIC ANTIDEPRESSANT DRUGS. 108496 13-09
- ON THE SELECTIVE EFFECT OF THE NEW ANTIDEPRESSANT FLURACIZINE ON THE ACTIVITY OF PYRIDINE DEHYDROGENASES IN THE BRAIN OF RATS. 111703 13-03
- EEG FREQUENCY ANALYSIS IN THE TREATMENT WITH SOME ANTIDEPRESSANT DRUGS: (IMIPRAMINE, AMITRIPTYLINE, DIBENZEPINE, DIMETHACRINE). 112289 13-09
- QUIPAZINE, A NEW TYPE OF ANTIDEPRESSANT AGENT. 124103 13-02
- ANTIDEPRESSANTS**  
EFFECT OF TRICYCLIC ANTIDEPRESSANTS ON MONOAMINE RESPONSES OF SINGLE CORTICAL NEURONES. 087359 13-03  
ARE ANTIDEPRESSANTS BETTER THAN PLACEBO? 092801 13-09  
ASSESSING ANTIDEPRESSANTS EFFECTIVENESS. 092841 13-10  
A POTENTIAL CLINICAL USE FOR METHYLPHENIDATE WITH TRICYCLIC ANTIDEPRESSANTS. 092932 13-09  
TRICYCLIC ANTIDEPRESSANTS AND MONOAMINE OXIDASE INHIBITORS. 095945 13-09

- CARDIOTOXICITY OF TRICYCLIC ANTIDEPRESSANTS; PHENOTHIAZINE AND IMIPRAMINE DERIVATIVES.** 097553 13-15
- METHYLPHENIDATE: A CATALYST FOR THE TRICYCLIC ANTIDEPRESSANTS.** 100880 13-13
- MULTIHOSPITAL CONTROLLED COMPARISON OF THE THERAPEUTIC EFFECTS OF FOUR ANTIDEPRESSANTS.** 105833 13-09
- EFFECT OF DIMETHYL AND MONOMETHYL TRICYCLIC ANTIDEPRESSANTS ON CENTRAL 5-HYDROXYTRYPTAMINE PROCESSES IN THE FROG.** 106426 13-03
- EFFECT OF TRANQUILIZERS AND ANTIDEPRESSANTS ON GLYCOGEN PHOSPHORYLASE OF RAT BRAIN.** 108283 13-03
- ANTIDEPRESSANTS AND BARRITURATES.** 109725 13-15
- ADRENERGIC EFFECT OF CHRONIC ADMINISTRATION OF NEUROLEPTICS AND ANTIDEPRESSANTS ON A MODEL OF APOMORPHINE INDUCED STEREOTYPY.** 111135 13-04
- COMPARATIVE STUDY OF THE EFFECT OF TRICYCLIC ANTIDEPRESSANTS ON THE SELF-STIMULATION REACTION OF THE BRAIN IN RATS.** 111292 13-03
- TRICYCLIC ANTIDEPRESSANTS AND HEART DISEASE.** 111564 13-15
- TRICYCLIC ANTIDEPRESSANTS AND HEART DISEASE.** 111724 13-15
- ANTIDEPRESSIVE**
- POSSIBILITIES OF ACCELERATING THE ONSET OF THE EFFECT OF ANTIDEPRESSIVE PHARMACOTHERAPY.** 086076 13-14
- CLINICAL TRIALS OF A GENUINE ANTIDEPRESSIVE AMPHETAMINE: THE D-1-PARA-CHLORO-N-METHYLAMPHETAMINE.** 097798 13-11
- PHARMACOLOGICAL STUDIES OF 5-METHYL-8-ETHYL-SULFONYL-10-(2-DIMETHYLAMINOETHYL) 5H-DIBENZODIAZEPINEONE (SM-307), AN ANTIDEPRESSIVE SUBSTANCE.** 098303 13-03
- CLINICAL EXPERIENCE WITH NOXIPTILINE, A NEW ANTIDEPRESSIVE AGENT.** 098625 13-07
- POSSIBILITIES OF ACCELERATING THE ONSET OF EFFECT OF ANTIDEPRESSIVE PHARMACOTHERAPY.** 101505 13-10
- TO THE ANTIDEPRESSIVE PROPERTIES OF LITHIUM AND ITS PLACE IN THE GROUP OF ANTIDEPRESSIVE DRUGS.** 105832 13-09
- RELATIONSHIP BETWEEN THE THERAPEUTIC EFFECT AND SIDE-EFFECTS IN THE TREATMENT WITH ANTIDEPRESSIVE DRUGS.** 105925 13-09
- INTERACTIONS BETWEEN CATECHOLAMINES AND TRICYCLIC AND MONOAMINE OXIDASE INHIBITOR ANTIDEPRESSIVE AGENTS IN MAN.** 120418 13-13
- A PSYCHODERMATOLOGICAL STUDY OF A COMBINATION OF TWO COMPOUNDS RESULTING IN A MIXED REACTION, ANTIDEPRESSIVE AND TRANQUILIZING (AMITRIPTYLINE - PERPHENAZINE).** 121753 13-07
- ANTIDROMICALLY**
- EFFECT OF NEMBUTAL ON THE INHIBITORY WAVE OF ANTIDROMICALLY INDUCED POTENTIAL IN THE MOTOR CORTEX OF THE CAT.** 111136 13-03
- ANTIEPILEPTIC**
- USE OF ANTIEPILEPTIC MEDICATION IN TREATING FLASHBACKS FROM HALLUCINOGENIC DRUGS.** 102589 13-17
- ANTIHISTAMINE**
- THE EFFECT OF IMIPRAMINE-LIKE DRUGS AND ANTIHISTAMINE DRUGS ON UPTAKE MECHANISMS IN THE CENTRAL NORADRENALINE AND 5-HYDROXYTRYPTAMINE NEURONS.** 107961 13-03
- ANTIHISTAMINES**
- EFFECTS OF ANTIHISTAMINES ON ISOLATION INDUCED FIGHTING IN MICE.** 125247 13-04
- ANTIHYPERTENSIVE**
- CHLORPROMAZINE REVERSAL OF THE ANTIHYPERTENSIVE ACTION OF GUANETHIDINE.** 098750 13-13
- ANTIINFLAMMATORY**
- COMPARATIVE PSYCHOPHARMACOLOGIC INVESTIGATION OF CRYOGENINE, CERTAIN NONSTEROID ANTIINFLAMMATORY COMPOUNDS, LUPINE ALKALOIDS AND CYPROHEPTADINE.** 091261 13-02
- ANTINICOTINIC**
- ANTAGONISM OF INTRACEREBRALLY INDUCED NICOTINIC CONVULSIONS IN MICE. A METHOD FOR MEASURING THE CENTRAL ANTINICOTINIC ACTIVITY OF CNS ACTING AGENTS.** 104807 13-06
- ANTINOCICEPTIVE**
- MODIFICATION OF THE ANTINOCICEPTIVE ACTIVITY OF MORPHINE BY CENTRALLY ADMINISTERED OUABAIN AND DOPAMINE.** 110188 13-03
- THE ANTINOCICEPTIVE ACTION OF A NOVEL ANALGESIC AND TENSIOLYTIC DRUG (BENZOCETAMINE) IN TWO DIFFERENT WRITHING SYNDROMES.** 118200 13-02
- ANTIPARKINSON**
- THE ANTIPARKINSON PROPERTIES OF AMANTADINE IN DRUG-INDUCED PARKINSONISM.** 087031 13-13
- THE INFLUENCE OF ANTIPARKINSON AGENTS UPON SUBNARCOTIC AND CHOLINERGIC POTENTIATION OF BARBITAL IN MICE.** 122048 13-03
- ANTIPARKINSONIAN**
- ANTIPARKINSONIAN EFFICACY AND TOXICITY OF L-DOPA ALONE AND IN COMBINATION WITH ALPHA-METHYLDOPAHYDRAZINE (MDH) (UNPUBLISHED PAPER).** 092899 13-09
- LONG-ACTING ANTIPARKINSONIAN DRUGS: I. PILOT STUDY OF BENZETIMIDE (342 CASES).** 096113 13-07
- A QUANTITATIVE STUDY OF NEUROLEPTIC INDUCED EXTRAPYRAMIDAL SYMPTOMS AND THEIR RESPONSE TO DEXETIMIDE, A POTENT AND LONG-ACTING ANTIPARKINSONIAN AGENT.** 113396 13-13
- ANTIPREDATOR**
- STIMULUS AND RESPONSE SPECIFICITY IN THE HABITUATION OF ANTIPREDATOR BEHAVIOUR IN THE RING DOVE (STREPTOPELIA-RISORIA).** 100047 13-09
- ANTIPSYCHOTIC**
- MECHANISM OF ACTION OF ANTIPSYCHOTIC DRUGS ON BIOLOGICAL ELECTRON TRANSPORT.** 087365 13-03
- GP-45795: A NEW DIBENZOTHIOPIN ANTIPSYCHOTIC AGENT.** 099157 13-07
- ELECTROENCEPHALOGRAPHIC VARIATIONS FOLLOWING ANTIPSYCHOTIC DRUG TREATMENT.** 100204 13-15
- EVALUATION OF THE ANTIPSYCHOTIC ACTIVITY OF AN INDOLE ANALOGUE, AL-1612.** 100540 13-08
- COMBINED TREATMENT WITH ECT AND ANTIPSYCHOTIC DRUGS IN SCHIZOPHRENIA.** 108959 13-08
- PERCEPTION AND TOLERANCE OF PAIN AS A MEASURE OF ANTIPSYCHOTIC TREATMENT.** 121259 13-08
- ANTIPSYCHOTICS**
- SUBSTITUTED PHENOTHIAZINE ANTIPSYCHOTICS.** 085473 13-17
- ANTISECRETORY**
- ASPECTS OF THE GASTRIC ACID ANTISECRETORY ACTIVITY OF 3,3-DIMETHYL-1-(3-METHYLAMINOPROPYL)-1-PHENYLPHALAN: A BLOCKER OF NOREPINEPHRINE UPTAKE.** 106526 13-03
- ANTISEROTONIN**
- A CLINICAL TRIAL OF AN ANTISEROTONIN COMPOUND, CINANSERIN, IN CHRONIC SCHIZOPHRENIA.** 086937 13-08
- ANXIETY**
- PHARMACOLOGIC CONSIDERATIONS IN THE TREATMENT OF ANXIETY AND DEPRESSION IN MEDICAL PRACTICE.** 074974 13-10
- TREATING ANXIETY AND DEPRESSION IN THE ELDERLY: A DOUBLE-BLIND CROSSOVER EVALUATION OF TWO WIDELY USED TRANQUILIZERS.** 079011 13-11
- PREDICTORS OF CHLORDIAZEPOXIDE RESPONSE IN ANXIETY.** 079432 13-10
- MEDAZEPAM COMPARED WITH AMYLOBARBITONE IN TREATMENT OF ANXIETY.** 088243 13-10
- MEDICATION, ANXIETY REDUCTION AND PATIENT REPORT OF SIGNIFICANT LIFE SITUATION EVENTS.** 092456 13-10
- BIOCHEMICAL FACTORS IN ANXIETY NEUROSIS.** 095007 13-17
- CLINICAL EXPERIENCE WITH THIORIDAZINE (MELLERIL) IN THE TREATMENT OF ANXIETY AND DEPRESSION ASSOCIATED WITH EMOTIONAL DISORDERS IN GENERAL PRACTICE.** 097556 13-10

- ANXIETY, DEPRESSION AND PSYCHOTROPIC DRUGS. 098916 13-14
- HALOPERIDOL AS A TREATMENT OF ANXIETY IN PSYCHONEUROTIC PATIENTS. 099155 13-10
- TREATMENT OF PHOBIC ANXIETY AND PSYCHOGENIC IMPOTENCE BY SYSTEMATIC DESENSITIZATION EMPLOYING METHOHXITONE INDUCED RELAXATION. 099320 13-10
- A TECHNIQUE IN THE EVALUATION OF PSYCHOTROPIC MEDICATION BASED ON A PATIENT DEMAND SCHEDULE; COMPARISON OF THE EFFICACY OF OXYPERTINE, DIAZEPAM AND PLACEBO IN ANXIETY. 100538 13-10
- COMPARATIVE EVALUATION OF DIAZEPAM (VALIUM) AND PHENOBARBITAL FOR THE RELIEF OF ANXIETY RELATED SYMPTOMS IN PATIENTS HOSPITALIZED FOR ACUTE MYOCARDIAL INFARCTION. 100626 13-14
- ANXIETY AND THE EFFECTS OF SODIUM LACTATE ASSESSED CLINICALLY AND PHYSIOLOGICALLY. 100780 13-10
- ASSESSMENT OF LOW DOSAGE HALOPERIDOL IN ANXIETY STATES. 100790 13-10
- ANXIETY STATE OR MASKED DEPRESSION? A STUDY BASED ON THE ACTION OF MONOAMINE OXIDASE INHIBITORS. 100791 13-10
- LITHIUM SALTS AS SEDATIVES: AN INVESTIGATION INTO THE POSSIBLE EFFECT OF LITHIUM ON ACUTE ANXIETY. 100811 13-10
- A COMPARISON BETWEEN DIAZEPAM, DIXYRAZINE, OPIPRAMOL AND PLACEBO IN ANXIETY STATES. 101410 13-10
- PROPRANOLOL FOR LSD INDUCED ANXIETY STATES. 101667 13-14
- HALOPERIDOL IN ANXIETY. 102213 13-10
- COMPARISON OF CHLORDIAZEPOXIDE AMITRIPTYLINE COMBINATION WITH AMITRIPTYLINE ALONE IN ANXIETY DEPRESSIVE STATES. 102215 13-10
- COMPARISON OF MAJOR DRUG THERAPIES FOR ALLEVIATION OF ANXIETY AND DEPRESSION. 103912 13-14
- A DOUBLE-BLIND COMPARISON OF DOTHIEPIN AND AMITRIPTYLINE FOR THE TREATMENT OF DEPRESSION WITH ANXIETY. 104830 13-09
- TREATMENT OF OBSSATIONAL ILLNESSES AND PHOBIC ANXIETY STATES WITH CLOMIPRAMINE. 105889 13-10
- LACTATE INDUCED ANXIETY; THERAPEUTIC APPLICATION. 105890 13-11
- EVALUATION OF A NEW TRANQUILLIZER - WY-4036 - IN THE TREATMENT OF ANXIETY. 107593 13-10
- A CONTROLLED COMPARISON OF DRUG EFFECTS ON ESCAPE FROM CONDITIONED AVERSIVE STIMULATION (ANXIETY) AND FROM CONTINUOUS SHOCK. 112313 13-04
- DRUGS IN THE MANAGEMENT OF ANXIETY. 115620 13-10
- EXPERIENCE WITH A NEW PSYCHOTROPIC DRUG, OXAZOLAM, IN TREATMENT OF ANXIETY NEUROSES. 123050 13-10
- ANXIOLYTIC**
- ANXIOLYTIC SEDATIVES, I. SYNTHESIS AND PHARMACOLOGY OF BENZODIAZEPINOXAZOLE DERIVATIVES AND ANALOGS. 114765 13-01
- THE ANTINOCICEPTIVE ACTION OF A NOVEL ANXIOLYTIC AND TENSIOYTIC DRUG (BENZOTAMINE) IN TWO DIFFERENT WRITHING SYNDROMES. 118200 13-02
- ANXIOUS**
- TREATMENT OF ANXIOUS DEPRESSIVE PATIENTS IN GENERAL MEDICAL PRACTICE. 074318 13-07
- ANXIOUS DEPRESSED ADULTS AND PROBLEM CHILDREN TREATED WITH THIORIDAZINE IN PRIVATE PRACTICE. 078943 13-10
- COMPARISON OF MOLIDONE AND PLACEBO IN ANXIOUS DEPRESSED PATIENTS. 086897 13-10
- ACETOPHENAZINE AND DIAZEPAM IN ANXIOUS DEPRESSIONS. 088148 13-10
- CHANGES IN REM SLEEP OF CHRONIC ANXIOUS DEPRESSED PATIENTS GIVEN ALPHA-METHYL-P-TYROSINE (UNPUBLISHED) PAPER. 093260 13-10
- METHODOLOGICAL ISSUES IN EVALUATING THE EFFECTIVENESS OF AGENTS FOR TREATING ANXIOUS PATIENTS. 095539 13-10
- GLOBAL RATINGS COMPARED TO RATING SCALES IN EVALUATING TRIFLUOPERAZINE AMOBARBITAL IN ANXIOUS PSYCHONEUROTIC OUTPATIENTS. 098093 13-10
- AORTIC**
- THE EFFECT OF COCAINE ON CATECHOL-O-METHYLTRANSFERASE AND ON THE RESPONSE TO NOREPINEPHRINE OF RABBIT AORTIC STRIPS. 105391 13-03
- APATHIC**
- FLUPENTHIXOL (FLUANXOL) IN THE TREATMENT OF APATHIC SYNDROMES OF SCHIZOPHRENIC ORIGIN. 089300 13-08
- THIOETHIXENE (NAVANE) IN THE TREATMENT OF APATHIC SYNDROMES OF SCHIZOPHRENIC ORIGIN. 089303 13-08
- APES**
- EFFECTS OF DELTA9-TETRAHYDROCANNABINOL ON SPACED RESPONDING IN GREAT APES. 120966 13-04
- APHASIA**
- CHARACTEROPATHIC CHANGES AND EXPRESSIVE APHASIA IN A CHILD WITH CONGENITAL AGENESIS OF THE SEPTUM PELLUCIDUM. 122951 13-11
- APHASIC**
- AMENTAL AND APHASIC DISTURBANCES APPEARING DURING PSYCHOPHARMACOLOGIC THERAPY. 125070 13-15
- APHRODISIAC**
- THE USE OF DRUGS IN THE SEARCH FOR A HUMAN APHRODISIAC EXPERIENCE. 094689 13-17
- APLYSIA**
- FUNCTIONING OF IDENTIFIED NEURONS AND SYNAPSES IN ABDOMINAL GANGLION OF APLYSIA IN ABSENCE OF PROTEIN SYNTHESIS. 102512 13-03
- APNEA**
- APNEA FOLLOWING METHAQUALONE INGESTION; REPORT OF A CASE. 102916 13-15
- SLEEP APNEA AND SLEEP REGULATING MECHANISM: A CASE EFFECTIVELY TREATED WITH MONOCHLORIMIPRAMINE. 111589 13-13
- APOMORPHINE**
- THE INFLUENCE OF NEUROLEPTIC AND THYMOLPTIC DRUGS ON STEREOTYPES INDUCED BY AMPHETAMINE AND APOMORPHINE. 102186 13-04
- INFLUENCE OF ISOLATION ON THE AGGRESSIVE BEHAVIOR INDUCED BY APOMORPHINE IN THE RAT. 104430 13-04
- EFFECTS OF APOMORPHINE AND AMPHETAMINE IN RATS WITH A PERMANENT CATALEPSY INDUCED BY DIENCEPHALIC LESION. PHARMACOLOGY. 105118 13-03
- TRYPTOPHAN PYRROLASE ACTIVITY AFTER CHRONIC ADMINISTRATION OF RESERPINE AND APOMORPHINE IN RATS. 106096 13-03
- ADRENERGIC EFFECT OF CHRONIC ADMINISTRATION OF NEUROLEPTICS AND ANTIDEPRESSANTS ON A MODEL OF APOMORPHINE INDUCED STEREOTYPY. 111135 13-04
- RELATIONSHIP BETWEEN DEPLETION OF NOREPINEPHRINE IN THE BRAIN AND THE HYPOTHERMIC EFFECT OF APOMORPHINE IN MICE. 113523 13-03
- THE APOMORPHINE ANTAGONISM TEST IN DOGS: EXPERIMENTAL EVIDENCE AND CRITICAL CONSIDERATIONS ON SPECIFIC METHODOLOGICAL CRITERIA. 121221 13-06
- ON THE DOPAMINE-LIKE ACTION OF APOMORPHINE. 122545 13-04
- CLIFF JUMPING IN RATS AFTER INTRAVENOUS TREATMENT WITH APOMORPHINE. 125167 13-04
- APPARATUS**
- THE ULTRASTRUCTURE OF THE SYNAPTIC APPARATUS FOLLOWING INTRODUCTION OF PHENAMINE AND HALOPERIDOL. 107720 13-03
- APPETITE**
- HUNGER AND APPETITE AFTER SINGLE-DOSES OF MARIHUANA, ALCOHOL, AND DEXTROAMPHETAMINE. 069320 13-13
- APPETITE STIMULATING AND WEIGHT GAIN PROPERTIES OF CYPROHEPTADINE (PERIACTIN) IN GERIATRIC SUBJECTS. 074314 13-11
- APPETITE SUPPRESSION AND CENTRAL NERVOUS SYSTEM STIMULATION IN THE RHESUS MONKEY. 110185 13-04
- APPETITIVE**
- DOSE RESPONSE EFFECTS OF ETHANOL ON APPETITIVE BEHAVIORS. 101741 13-04

# Subject Index

# Psychopharmacology Abstracts

- APPLICATIONS**  
PROPHYLACTIC LITHIUM THERAPY: SOME CLINICAL APPLICATIONS. 077667 13-09
- APPROACH**  
MARIJUANA: A REALIST APPROACH. 082713 13-17  
LITHIUM CARBONATE AND ISOCARBOXAZID - AN EFFECTIVE DRUG APPROACH IN SEVERE DEPRESSIONS. 088144 13-07  
THE DYSKINESIAS: A NEW THERAPEUTIC APPROACH. 098292 13-08  
ORTHOMOLECULAR TREATMENT: A BIOCHEMICAL APPROACH TO TREATMENT OF SCHIZOPHRENIA. 101158 13-08  
PARKINSONS DISEASE: A NEW APPROACH TO TREATMENT. 110002 13-11
- APPROACHES**  
APPROACHES TO MEASURING THE EFFICACY OF DRUG TREATMENT OF PERSONALITY DISORDERS: AN ANALYSIS AND PROGRAM. 095542 13-10  
SOME APPROACHES TO THE TREATMENT OF PHOBIC DISORDERS. 109845 13-10
- APPROXIMATION**  
TRYPTOPHAN 5-HYDROXYLASE: APPROXIMATION OF HALF-LIFE AND AXONAL FLOW RATE (UNPUBLISHED PAPER). 092508 13-03  
MONOAMINE OXIDASE: AN APPROXIMATION OF TURNOVER RATES. 105950 13-03
- ARENA**  
EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CANNABIS-SATIVA AND (-)-DELTA9-TRANS-TETRAHYDROCANNABINOL ON THE BEHAVIOR OF RATS IN AN OPEN-FIELD ARENA. 125251 13-04
- ARGININE**  
ANALYSIS OF THE EFFECTS OF ARGININE N-ACETYLSPARAGINATE ON THE CENTRAL NERVOUS SYSTEM. 103653 13-03
- ARIOCARPUS-KOTSCHOUBEYANUS**  
CACTUS ALKALOIDS X: ISOLATION OF HORDENINE AND N-METHYLTYRAMINE FROM ARIOCARPUS-KOTSCHOUBEYANUS. 079413 13-01
- AROMATIC**  
THE UPTAKE AND SUBCELLULAR DISTRIBUTION OF AROMATIC AMINES IN THE BRAIN OF THE RAT. 106922 13-03
- AROUSAL**  
MOTIVATED BEHAVIORS PRODUCED BY INCREASED AROUSAL IN THE PRESENCE OF GOAL OBJECTS. 095549 13-04  
A BIPHASIC ACTION OF CENTRAL CHOLINERGIC STIMULATION ON BEHAVIORAL AROUSAL IN THE RAT. 104432 13-04  
AUTONOMIC AROUSAL AND AFFILIATION IN RATS. 105060 13-04  
POTENTIATION OF AMPHETAMINE INDUCED AROUSAL BY STARVATION. 114515 13-04
- ARRHYTHMIA**  
CARDIAC ARRHYTHMIA IN A CHILD DUE TO CHLORAL HYDRATE INGESTION. 077912 13-15  
PHENOTHIAZINE INDUCED CARDIAC ARRHYTHMIA. 108513 13-15
- ARTANE**  
TOXICOMANIC BEHAVIOR FROM ARTANE. 100403 13-15
- ARTERIAL**  
THE INFLUENCE OF BARBITURATE ANESTHESIA UPON THE ENERGY STATE AND UPON ACID BASE PARAMETERS OF THE BRAIN IN ARTERIAL HYPOTENSION AND IN ASPHYXIA. 095999 13-03
- ARTERIOSCLEROSIS**  
THE EFFECT OF PAPAVERINE ON PATIENTS WITH CEREBRAL ARTERIOSCLEROSIS. 086936 13-14  
THE USE OF CYCLANDELTATE IN CHRONIC BRAIN SYNDROME WITH ARTERIOSCLEROSIS. 100536 13-11
- ARTERY**  
THE CENTRALLY INDUCED FALL IN BLOOD PRESSURE AFTER THE INFUSION OF AMPHETAMINE AND RELATED DRUGS INTO THE VERTEBRAL ARTERY OF THE CAT. 106911 13-03
- ARTICLES**  
LITHIUM AND PSYCHIATRY: JOURNAL ARTICLES. 114911 13-09
- ASPHYXIA**  
THE INFLUENCE OF BARBITURATE ANESTHESIA UPON THE ENERGY STATE AND UPON ACID BASE PARAMETERS OF THE BRAIN IN ARTERIAL HYPOTENSION AND IN ASPHYXIA. 095999 13-03
- ASSAY**  
RAPID METHOD FOR SIMULTANEOUS QUALITATIVE ASSAY OF NARCOTICS, COCAINE, QUININE AND PROPOXYPHENE IN THE URINE. 100168 13-16  
METHODOLOGIC CONSIDERATIONS OF THE EVALUATION OF HYPNOTICS IN MAN: A BIOLOGIC ASSAY OF PENTOBARBITAL AND SECOBARBITAL. 100261 13-16  
A RAPID, SIMPLIFIED PROCEDURE FOR SIMULTANEOUS ASSAY OF NOREPINEPHRINE, DOPAMINE, AND 5-HYDROXYTRYPTAMINE FROM DISCRETE BRAIN AREAS. 117510 13-06
- ASSESSED**  
ANXIETY AND THE EFFECTS OF SODIUM LACTATE ASSESSED CLINICALLY AND PHYSIOLOGICALLY. 100780 13-10
- ASSESSING**  
ASSESSING ANTIDEPRESSANTS EFFECTIVENESS. 092841 13-10
- ASSESSMENT**  
PROGRESS REPORT ON THE ASSESSMENT OF THE ANTAGONISTS NALBUPHINE AND GPA-2087 FOR ABUSE POTENTIAL AND STUDIES OF THE EFFECTS OF DEXTROMETHORPHAN IN MAN (UNPUBLISHED PAPER). 094938 13-13  
RATIONALITY IN THE ASSESSMENT OF PSYCHOTROPIC DRUG EFFICACY. 095533 13-17  
PSYCHOPHARMACOLOGY IN CHILDREN: PROBLEM AREAS, METHODOLOGICAL CONSIDERATIONS, AND ASSESSMENT TECHNIQUES. 095541 13-11  
ASSESSMENT OF LOW DOSAGE HALOPERIDOL IN ANXIETY STATES. 100790 13-10  
ASSESSMENT OF FLUORACISINE TOXICITY. 111131 13-05  
CLINICAL AND ELECTROENCEPHALOGRAPHIC ASSESSMENT OF DIAZEPAM IN LIVER DISEASE. 111963 13-15  
SINGLE SUBJECT DESIGNS FOR ASSESSMENT OF PSYCHOTROPIC DRUG EFFECTS IN CHILDREN. 112085 13-14  
ASSESSMENT OF THE CLINICAL ACTION OF THE PREPARATION TPM-12 SANDOZ IN THE TREATMENT OF MENTAL DISTURBANCES. 122946 13-11
- ASSOCIATION**  
ASSOCIATION OF CNS ACTIVE DRUGS WITH 9-ETHYLADENINE. 102101 13-17  
THE ASSOCIATION OF BENZODIAZEPINE AND PHENOTHIAZINE IN SCHIZOPHRENIA. 121458 13-08
- ASSOCIATIONS**  
ACUTE EFFECT OF MEDAZEPAM (15MG), OXAZEPAM (20MG), AND DIAZEPAM (10MG) ON VERBAL ASSOCIATIONS. 105916 13-14  
ACUTE EFFECT OF CHLORPROTHIXENE (5MG), CAFFEINE (200MG) AND THE COMBINATION OF BOTH DRUGS ON VERBAL ASSOCIATIONS. 105997 13-14
- ASTHMA-DOR**  
TOXIC PSYCHOSIS INDUCED BY ASTHMA-DOR. 092693 13-15
- ATARAXIC**  
PSYCHOTHERAPY AND ATARAXIC DRUGS. 103237 13-17
- ATOMS**  
EFFECTS OF INTRAPERITONEAL INJECTIONS OF LITHIUM CHLORIDE ON THE ENTRY OF RADIOACTIVE CARBON ATOMS OF GLUCOSE AND AMINO ACIDS INTO MOUSE BRAIN AND OTHER TISSUES. 106524 13-03
- ATP**  
EFFECT OF TRIPHASINE AND CHLORPROMAZINE ON NORADRENALINE AND ATP CONCENTRATION IN THE GRANULATION AND SUPERNATANT FRACTIONS OF THE BRAIN STEM. 111293 13-03
- ATPASE**  
EFFECT OF DELTA1-TETRAHYDROCANNABINOL ON ATPASE ACTIVITY OF RAT LIVER MITOCHONDRIA. 077870 13-03  
SODIUM AND POTASSIUM ACTIVATED ATPASE OF BEEF BRAIN - EFFECTS OF SOME TRANQUILIZERS. 101705 13-03
- ATROPHY**  
FOLIC ACID CONCENTRATIONS IN CEREBROSPINAL FLUID IN RELATION TO ANTICONVULSANT DRUGS AND CEREBRAL ATROPHY. 100809 13-11

**ATROPINE**

- THE METABOLISM OF TRITIATED ATROPINE IN DATURA-INNOXIA. 100169 13-03
- EFFECT OF ATROPINE ON DRINKING INDUCED BY CARBACHOL, ANGIOTENSIN AND ISOPROTERENOL. 101966 13-04
- DIFFERENTIAL ANTAGONISM BETWEEN DMAE (A HEMICHOLINIUM DERIVATIVE) AND ATROPINE ON CONTRACTILE RESPONSES OF THE RAT ILEUM. 104327 13-03
- THE EFFECTS OF ATROPINE ON HABITUATION IN A LIGHT REINFORCEMENT SITUATION. 104576 13-04
- THE EFFECTS OF ESERINE AND ATROPINE ON THE EPILEPTIFORM ACTIVITY OF CHRONICALLY ISOLATED CORTEX. 106065 13-03
- THE COMPARISON OF THE EFFECTS OF ATROPINE AND BENACTYZINE ON SOME STRUCTURES OF LIMBIC SYSTEM OF THE RATS. 106092 13-03
- DISSOCIATION BETWEEN EEG AND SPONTANEOUS BEHAVIOUR OF RATS AFTER ATROPINE. 106094 13-03
- ATROPINE THERAPY IN OBSESSIVE STATES. 108852 13-10
- DIFFERENTIAL EFFECT OF ATROPINE AND HYOSCINE ON HUMAN LEARNING CAPACITY. 120416 13-14
- ATROPINE SPIKES. 125630 13-13
- ATTACK**
- DRUGS AND STIMULUS BOUND ATTACK. 088672 13-04
- THE EFFECT OF IMIPRAMINE AND SELECTED DRUGS ON ATTACK ELICITED BY HYPOTHALAMIC STIMULATION IN THE CAT. 107960 13-04
- ATTACKS**
- RESULTS OF TREATMENT OF DYSTHYMIC ATTACKS WITH CARBAMAZEPINE. 123891 13-07
- ATTEMPTED**
- ATTEMPTED THERAPY OF DEPRESSIVE PSYCHOSIS BY MEANS OF EXPERIMENTALLY INDUCED SKIN ALLERGIES. 126102 13-09
- ATTENTION**
- ATTENTION IN HYPERACTIVE CHILDREN AND THE EFFECT OF METHYLPHENIDATE (RITALIN). 101643 13-11
- ATTENTIVE**
- THE EFFECT OF METHYLPHENIDATE ON ATTENTIVE BEHAVIOR AND AUTONOMIC ACTIVITY IN HYPERACTIVE CHILDREN. 111147 13-14
- ATTENUATING**
- THE ATTENUATING EFFECT OF STRYCHNINE AND PHYSOSTIGMINE ON DURAL ELECTROCONVULSIVE SHOCK INDUCED RETROGRADE AMNESIA. (PH.D. DISSERTATION). 109358 13-04
- ATTENUATION**
- ATTENUATION OF STIMULUS SENSITIVITY BY SCOPOLAMINE. 079533 13-04
- ATTENUATION OF STIMULUS SENSITIVITY INDUCED BY SCOPOLAMINE. 095197 13-04
- ATTITUDES**
- A STUDY OF HOSPITAL STAFF ATTITUDES CONCERNING THE COMPARATIVE MERITS OF ANTIBIOTICS. 069516 13-17
- THE ROLE OF BODY ATTITUDES AND ACQUIESCENCE IN EPINEPHRINE AND PLACEBO EFFECTS. 079188 13-14
- PHENOTHIAZINE INTAKE AND STAFF ATTITUDES. 093270 13-17
- PHYSICIAN CHARACTERISTICS AND ATTITUDES TOWARD LEGITIMATE USE OF PSYCHOTHERAPEUTIC DRUGS. 093860 13-17
- ATYPICAL**
- SECONDARY GLUTETHIMIDE ADDICTION IN ENDOGENOUS ATYPICAL PSYCHOSES. 087021 13-15
- AUDIOGENIC**
- DOPA REVERSAL OF RESERPINE ENHANCEMENT OF AUDIOGENIC SEIZURE SUSCEPTIBILITY IN MICE. 088577 13-03
- SUSCEPTIBILITY TO AUDIOGENIC STIMULI INDUCED BY HYPERBARIC OXYGENATION AND VARIOUS NEUROACTIVE AGENTS. 119724 13-03
- AUDITORY**
- THE EFFECTS OF NITROUS OXIDE ON THE AUDITORY EVOKED RESPONSE IN A REACTION TIME TASK. 105011 13-14

PHENOTHIAZINE EFFECTS ON AUDITORY SIGNAL DEFLECTION IN PARANOID AND NONPARANOID SCHIZOPHRENICS. 106918 13-08

- THE PHARMACOLOGY OF PERIPHERAL AUDITORY PROCESSES; COCHLEAR PHARMACOLOGY. 108523 13-13
- EVOKED POTENTIAL AND SINGLE UNIT STUDIES OF NEURAL MECHANISMS UNDERLYING THE EFFECTS OF REPETITIVE STIMULATION IN THE AUDITORY PATHWAY. 108671 13-03
- AUERBACH**
- AMINE UPTAKE CHARACTERISTICS OF THE GUINEA-PIG AUERBACH PLEXUS. 120466 13-03
- AUTISM**
- LABORATORY PREDICTIONS OF INFANTILE AUTISM BASED ON 5-HYDROXYTRYPTAMINE EFFLUX FROM BLOOD PLATELETS AND THEIR CORRELATION WITH THE RIMLAND E-2 SCORE. 082634 13-13
- EFFECTS OF L-DOPA IN AUTISM. 092573 13-11
- AUTISTIC**
- IMIPRAMINE IN PRESCHOOL AUTISTIC AND SCHIZOPHRENIC CHILDREN. 101536 13-11
- AUTONOMIC**
- EFFECTS OF ADRENERGIC BLOCKING AGENTS ON PERCEPTUAL TYPES IN AN AUTONOMIC CONDITIONING PARADIGM (UNPUBLISHED PAPER). 085292 13-17
- AUTONOMIC AROUSAL AND AFFILIATION IN RATS. 105060 13-04
- THE EFFECT OF METHYLPHENIDATE ON ATTENTIVE BEHAVIOR AND AUTONOMIC ACTIVITY IN HYPERACTIVE CHILDREN. 111147 13-14
- AUTOPSY**
- DETERMINATION OF THE COMPONENTS OF A COMBINED PREPARATION OF GLUTETHIMIDE, AMOBARBITAL AND PROMETHAZINE IN AUTOPSY MATERIAL FROM SEVERAL SUICIDES. 089151 13-15
- AUTORADIOGRAPHIC**
- H<sup>3</sup>-LYSERGIC ACID DIETHYLAMIDE: CELLULAR AUTORADIOGRAPHIC LOCALIZATION IN RAT BRAIN. 098956 13-03
- AUTORADIOGRAPHIC STUDY OF THE FATE OF DIAZEPAM-C14 IN THE MONKEY BRAIN. 106147 13-03
- AUTORADIOGRAPHY**
- AUTORADIOGRAPHY OF SOME SUSPECTED NEUROTRANSMITTER SUBSTANCES: GABA GLYCINE, GLUTAMIC ACID, HISTAMINE, DOPAMINE, AND L-DOPA. 109417 13-03
- AVERSION**
- RAPID LEARNING OF PASSIVE AVOIDANCE BY WEANLING RATS: CONDITIONED TASTE AVERSION. 101354 13-04
- CONTINUED AVERSION TO SACCHARIN BY SINGLE ADMINISTRATIONS OF MESCALINE AND D-AMPHETAMINE. 107629 13-04
- AVERSIVE**
- CHLORDIAZEPOXIDE AND AVERSIVE CONDITIONING: EFFECTS OF ACQUISITION AND PERFORMANCE OF THE CONDITIONED NICTITATING MEMBRANE RESPONSE IN THE RABBIT. 078527 13-04
- PROLONGED TREATMENT WITH MORPHINE IN RATS: DRUG/BEHAVIOR INTERACTION UNDER AVERSIVE CONTROL. 103954 13-04
- A CONTROLLED COMPARISON OF DRUG EFFECTS ON ESCAPE FROM CONDITIONED AVERSIVE STIMULATION (ANXIETY) AND FROM CONTINUOUS SHOCK. 112313 13-04
- AVOIDANCE**
- EFFECTS OF SOME PSYCHOACTIVE DRUGS ON CONDITIONED AVOIDANCE RESPONSE IN AGGRESSIVE MICE. 077992 13-04
- EFFECTS OF STRAIN DIFFERENCES AND D-AMPHETAMINE SULFATE ON AVOIDANCE PERFORMANCE. 078250 13-02
- EFFECTS OF HALOTHANE ANESTHESIA ON THE RETENTION OF A PASSIVE AVOIDANCE TASK IN RATS. 078448 13-04
- THE EFFECTS OF MAGNESIUM PEMOLINE ON SIDMAN AVOIDANCE BEHAVIOR. 078452 13-04
- EFFECTS OF RIBONUCLEASE ON ACQUISITION AND RETENTION OF ESCAPE AVOIDANCE BEHAVIOR IN A SELECTIVELY BRED RAT STRAIN. 078453 13-04
- EFFECTS OF CHRONIC AND ACUTE MORPHINE ADMINISTRATION ON ONE-WAY AVOIDANCE TRAINING. 079769 13-14

- STIMULUS SIGNIFICANCE AND CHLORPROMAZINE INDUCED IMPAIRMENT OF AVOIDANCE LEARNING IN MICE.** 082759 13-04
- FACILITATION AND IMPAIRMENT OF AVOIDANCE RESPONDING BY PHENOBARBITAL SODIUM, CHLORDIAZEPOXIDE AND DIAZEPAM - THE ROLE OF PERFORMANCE BASE LINES.** 082881 13-04
- EFFECTS OF PSYCHOACTIVE DRUGS ON CONFLICT AVOIDANCE BEHAVIOR IN HUMAN SUBJECTS.** 086572 13-14
- STIMULUS SIGNIFICANCE AND CHLORPROMAZINE EFFECTS ON THE EXPRESSION OF AVOIDANCE LEARNING IN MICE.** 086900 13-04
- POTENTIATION OF EFFECTS OF L-DOPA ON CONDITIONED AVOIDANCE BEHAVIOR BY INHIBITION OF EXTRACEREBRAL DOPA-DECARBOXYLASE.** 086685 13-03
- EFFECTS OF SINGLE 1/2 LD50 DOSES OF GB UPON DELAYED RESPONSE AND CONDITIONED AVOIDANCE RESPONSE TESTS.** 094956 13-03
- DEFICIT IN ACTIVE AVOIDANCE LEARNING IN RATS FOLLOWING PENICILLIN INJECTION INTO HIPPOCAMPUS.** 095382 13-04
- THE EFFECT OF PROSTAGLANDIN E2 ON CONDITIONED AVOIDANCE RESPONSE PERFORMANCE IN RATS.** 098159 13-04
- EFFECTS OF L-DELTA-TETRAHYDROCANNABINOL ON TEMPORALLY SPACED RESPONDING AND DISCRIMINATED SIDMAN AVOIDANCE BEHAVIOR IN RATS.** 098924 13-04
- EFFECT OF AN RNA RICH EXTRACT ON ACQUISITION OF A ONE-WAY AVOIDANCE RESPONSE IN RATS.** 099686 13-04
- THE INFLUENCE OF TRAINING AND AVOIDANCE PERFORMANCE ON DISULFIRAM INDUCED CHANGES IN BRAIN CATECHOLAMINES.** 100216 13-03
- UNSUCCESSFUL ATTEMPTS TO TRANSFER MORPHINE TOLERANCE AND PASSIVE AVOIDANCE BY BRAIN EXTRACTS.** 100938 13-04
- RAPID LEARNING OF PASSIVE AVOIDANCE BY WEANLING RATS: CONDITIONED TASTE AVERSION.** 101354 13-04
- CENTRAL CHOLINERGIC BLOCKADE AND TWO-WAY AVOIDANCE ACQUISITION: THE ROLE OF RESPONSE DISINHIBITION.** 102097 13-04
- EFFECTS OF METHAMPHETAMINE AND SHOCK DURATION DURING INESCAPABLE SHOCK EXPOSURE ON SUBSEQUENT ACTIVE AND PASSIVE AVOIDANCE.** 102549 13-04
- THE EFFECT OF PRE- AND POST-TRIAL AMPHETAMINE INJECTIONS ON AVOIDANCE RESPONSES OF RATS.** 103944 13-04
- INCREASED RESISTANCE TO EXTINCTION OF AN AVOIDANCE RESPONSE IN RATS FOLLOWING THE ADMINISTRATION OF HASHISH RESIN.** 103951 13-04
- EFFECTS OF DIAZEPAM ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS.** 104138 13-04
- DRUG-INDUCED SUPPRESSION OF CONDITIONED HYPERTHERMIC AND CONDITIONED AVOIDANCE BEHAVIOR RESPONSE IN RATS.** 104144 13-04
- ADRENOCORTICAL FUNCTION AND SEX DIFFERENCES IN ACQUISITION AND EXTINCTION OF ACTIVE AVOIDANCE BEHAVIOR IN THE RAT.** 104457 13-04
- CHOLINERGIC MECHANISMS AND AVOIDANCE BEHAVIOR ACQUISITION: EFFECTS OF NICOTINE IN MICE.** 104462 13-04
- EFFECT OF CHLORPROMAZINE ON CONDITIONED AVOIDANCE AS A FUNCTION OF CS-US INTERVAL LENGTH.** 104579 13-04
- EFFECT OF ALDRIN ON THE CONDITION AVOIDANCE RESPONSE AND ELECTROSHOCK SEIZURE THRESHOLD OF OFFSPRING FROM ALDRIN TREATED MOTHER.** 104791 13-04
- METHAMPHETAMINE EFFECTS UPON AVOIDANCE BEHAVIOR DURING LIMBIC SEIZURES IN THE CAT.** 104797 13-04
- EFFECT OF 5-iodouracil AND 2,6 DIAMINOPURINE ON PASSIVE AVOIDANCE TASK.** 104810 13-04
- THE EFFECTS OF VARIOUS ANTIDEPRESSANT DRUGS UPON THE TETRABENAZINE SUPPRESSED CONDITIONED AVOIDANCE RESPONSE IN RATS.** 105013 13-04
- THE CYCLOHEXIMIDE INDUCED AMNESIA GRADIENT OF A PASSIVE AVOIDANCE TASK.** 105075 13-04
- EVIDENCE FOR STATE DEPENDENT LEARNING WITH MESCALINE IN A PASSIVE AVOIDANCE TASK.** 105079 13-04
- THE EFFECTS OF TWO TETRAHYDROCANNABINOLS, (DELTA9-THC AND DELTA8-THC) ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS.** 106393 13-04
- TWENTY-FOUR-HOUR PROACTIVE FACILITATION OF AVOIDANCE AND DISCRIMINATION LEARNING IN RATS BY D-AMPHETAMINE.** 106786 13-04
- FACILITATORY EFFECTS OF AMPHETAMINE ON LEARNING AND RECALL OF AN AVOIDANCE RESPONSE IN RATS.** 107943 13-04
- ACQUISITION OF CONDITIONED AVOIDANCE RESPONSE IN RATS UNDER THE INFLUENCE OF ADDICTING DRUGS.** 110182 13-04
- TWO-WAY (SHUTTLE-BOX) AVOIDANCE IN RATS AFTER PARAOXON TREATMENT.** 110493 13-04
- EFFECT OF P-CHLOROPHENYLALANINE ON AVOIDANCE CONDITIONING AND ITS INTERACTION WITH AMPHETAMINE.** 110960 13-03
- STUDIES ON THE MECHANISM OF AVOIDANCE FACILITATION BY NICOTINE.** 112314 13-04
- EFFECT OF AZAPHEN ON THE CONDITIONED AVOIDANCE REFLEX IN RATS.** 113518 13-04
- EFFECTS OF DRUG STATE CHANGES UPON TWO-WAY SHUTTLE AVOIDANCE RESPONSES IN RATS, TREATED WITH CHLORDIAZEPOXIDE OR PLACEBO.** 117747 13-04
- EFFECT OF INTRAVENTRICULARLY APPLIED SODIUM OROTATE ON A CONDITIONED AVOIDANCE RESPONSE OF THE RAT.** 119690 13-04
- THE BEHAVIORAL EFFECTS OF A NEW PSYCHOACTIVE DRUG (D-CARBINE) ON A PASSIVE AVOIDANCE RESPONSE AND LOCOMOTION AND ITS INTERACTION WITH AMPHETAMINE.** 124104 13-02
- FACILITATING EFFECTS OF SOME CHLORPROMAZINE D-AMPHETAMINE MIXTURES ON AVOIDANCE LEARNING.** 124107 13-04
- SEPARATION OF THE EFFECTS OF MAGNESIUM PEMOLINE ON AVOIDANCE LEARNING AND MEMORY FROM ITS CENTRAL NERVOUS SYSTEM STIMULANT PROPERTIES BY CHLORDIAZEPOXIDE.** 125410 13-04
- AWARENESS**
- MARIHUANA AND THE TEMPORAL SPAN OF AWARENESS.** 095925 13-14
- AXIS**
- POSSIBLE ROLE OF THE PITUITARY/ADRENOCORTICAL AXIS IN AGGRESSIVE BEHAVIOUR.** 111873 13-04
- AXONAL**
- TRYPTOPHAN 5-HYDROXYLASE: APPROXIMATION OF HALF-LIFE AND AXONAL FLOW RATE (UNPUBLISHED PAPER).** 092508 13-03
- AXONS**
- DIPHENYLHYDANTOIN (DILANTIN); STIMULATION OF POTASSIUM INFLUX IN LOBSTER AXONS.** 117581 13-03
- AZAPHEN**
- EFFECT OF AZAPHEN ON THE CONDITIONED AVOIDANCE REFLEX IN RATS.** 113518 13-04
- BABY**
- MANAGING THE PREGNANT ADDICT AND HER BABY.** 078152 13-15
- BACILLUS-MEGATERIUM**
- EFFECTS OF CHLORPROMAZINE ON CELL WALL BIOSYNTHESIS AND INCORPORATION OF OROTIC ACID INTO NUCLEIC ACIDS IN BACILLUS-MEGATERIUM.** 088517 13-03
- BARBITAL**
- POTENTIATION OF BARBITAL NARCOSIS IN MICE BY CHOLINOMIMETICS AND CHOLINESTERASE BLOCKERS.** 122047 13-03
- THE INFLUENCE OF ANTIPARKINSON AGENTS UPON SUBNARCOTIC AND CHOLINERGIC POTENTIATION OF BARBITAL IN MICE.** 122048 13-03
- CHANGES IN A HEXOBARBITAL ANESTHESIA THRESHOLD IN RATS INDUCED BY REPEATED LONG-TERM TREATMENT WITH BARBITAL OR ETHANOL.** 125248 13-03
- BARBITURATE**
- PHENOBARBITAL TECHNIQUE FOR TREATMENT OF BARBITURATE DEPENDENCE.** 071568 13-16

- A BARBITURATE LIKE EFFECT OF ADRENOCORTICOTROPIC HORMONE ON THE PARTIAL REINFORCEMENT ACQUISITION AND EXTINCTION EFFECTS. 082858 13-04
- AMPHETAMINE BARBITURATE MIXTURES: LEARNING AND RETENTION IN RATS. 086771 13-04
- METHODS FOR INVESTIGATING BARBITURATE TOLERANCE. 087362 13-06
- THE INFLUENCE OF BARBITURATE ANESTHESIA UPON THE ENERGY STATE AND UPON ACID BASE PARAMETERS OF THE BRAIN IN ARTERIAL HYPOTENSION AND IN ASPHYXIA. 095999 13-03
- ENHANCEMENT OF METHYLDOPA METABOLISM WITH BARBITURATE. 100132 13-13
- DOSE RESPONSE AND BIASED SET STUDY OF AN AMPHETAMINE AND A BARBITURATE. 104379 13-16
- DIAZEPAM, ALCOHOL, AND BARBITURATE ABUSE. 107948 13-15
- BARBITURATES**
- EFFECT OF TRYPTOPHAN ON TOXICITY AND DEPRESSANT EFFECTS OF BARBITURATES AND ETHANOL IN RATS. 078164 13-03
- THE BUCCAL ABSORPTION OF SOME BARBITURATES. 087141 13-06
- THE INFLUENCE OF BARBITURATES ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCI. 104375 13-03
- ANTIDEPRESSANTS AND BARBITURATES. 109725 13-15
- PSYCHOTIC EPISODES PROVOKED BY A COMBINATION OF BARBITURATES AND PHENMETRAZINE. 112436 13-15
- BARBITURIC**
- INFLUENCE OF PH ON AGGREGATION AND PROTEIN BINDING OF BARBITURIC ACID AND AMYLOBARBITONE. 089049 13-03
- BAROMETRIC**
- EFFECT OF REDUCED BAROMETRIC PRESSURE ON DRUG ACTION AND METABOLISM IN MICE. 118568 13-03
- BARRIER**
- EFFECTS OF HYDROCORTISONE AND CYCLOHEXIMIDE ON BLOOD-BRAIN BARRIER FUNCTION IN THE RAT. 078949 13-03
- BLOOD-BRAIN BARRIER TO H3-GAMMA-AMINOBUTYRIC ACID IN NORMAL AND AMINOXYACETIC ACID TREATED ANIMALS. 082756 13-03
- BASAL**
- EFFECT OF CHLORPROMAZINE AND PHENAMINE ON THE BASAL METABOLISM AND CONDITIONED REFLEX ACTIVITY IN RATS UNDER STRESS CONDITIONS. 113521 13-03
- BASE**
- FACILITATION AND IMPAIRMENT OF AVOIDANCE RESPONDING BY PHENOBARBITAL SODIUM, CHLORDIAZEPoxide AND DIAZEPAM - THE ROLE OF PERFORMANCE BASE LINES. 082881 13-04
- THE INFLUENCE OF BARBITURATE ANESTHESIA UPON THE ENERGY STATE AND UPON ACID BASE PARAMETERS OF THE BRAIN IN ARTERIAL HYPOTENSION AND IN ASPHYXIA. 095999 13-03
- BC-105**
- BC-105 AND METHYSERGIDE (DESERIL) IN MIGRAINE PROPHYLAXIS. 117683 13-07
- BEEF**
- SODIUM AND POTASSIUM ACTIVATED ATPASE OF BEEF BRAIN - EFFECTS OF SOME TRANQUILIZERS. 101705 13-03
- BEHAVING**
- NOREPINEPHRINE CONTAINING NEURONS: SPONTANEOUS ACTIVITY DURING WAKING AND SLEEPING IN FREELY BEHAVING CATS (UNPUBLISHED PAPER). 092976 13-04
- BEHAVIOR**
- COPULATORY BEHAVIOR OF MALE RATS FOLLOWING RESERPINE ADMINISTRATION. 073485 13-04
- THE INFLUENCE OF SELECTIVE TEMPORAL LOBE DAMAGE ON BEHAVIOR AND THE RESPONSE TO LYSERGIC ACID DIETHYLAMIDE. 073494 13-05
- PREDICTING THE RESPONSE OF CHILDREN WITH LEARNING DISABILITIES AND BEHAVIOR PROBLEMS TO DEXTROAMPHETAMINE SULFATE. 077911 13-11
- DIFFERENTIAL EFFECTS OF D- AND L-AMPHETAMINE ON BEHAVIOR AND ON CATECHOLAMINE DISPOSITION IN DOPAMINE AND NOREPINEPHRINE CONTAINING NEURONS OF RAT BRAIN. 078134 13-04
- THE EFFECTS OF MAGNESIUM PEMOLINE ON SIDMAN AVOIDANCE BEHAVIOR. 078452 13-04
- EFFECTS OF RIBONUCLEASE ON ACQUISITION AND RETENTION OF ESCAPE AVOIDANCE BEHAVIOR IN A SELECTIVELY BRED RAT STRAIN. 078453 13-04
- ENHANCEMENT OF AMPHETAMINE INDUCED STEREOTYPED BEHAVIOR BY BENZODIAZEPINES. 078936 13-04
- CATECHOLAMINES AND MANIA: THE EFFECT OF ALPHA-METHYL-P-TYROSINE ON MANIC BEHAVIOR AND CATECHOLAMINE METABOLISM. 079064 13-09
- CUE VALUE OF DEXAMETHASONE FOR FEAR MOTIVATED BEHAVIOR. 079066 13-04
- TEMPORAL EFFECTS OF RNASE AND DNASE IN DISRUPTING ACQUIRED ESCAPE BEHAVIOR IN REGENERATED PLANARIA. 079423 13-04
- MANAGEMENT OF HYPERACTIVE BEHAVIOR IN CHILDREN. 080564 13-17
- THE USE OF MEGAVITAMIN THERAPY IN REGULATING SEVERE BEHAVIOR DISORDERS, DRUG ABUSES AND FRANK PSYCHOSIS. 082735 13-17
- DEPRESSION OF BEHAVIOR AND THE BRAIN CONTENT OF ALPHA-METHYLNOREPINEPHRINE AND ALPHA-METHYLDOPAMINE FOLLOWING THE ADMINISTRATION OF ALPHA-METHYLDOPA. 082757 13-04
- EFFECTS OF SEPTAL AREA AND CINGULATE CORTEX LESIONS ON OPIATE ADDICTION BEHAVIOR IN RATS. 085333 13-04
- CHANGES IN PRIMATE SOCIAL BEHAVIOR AFTER TREATMENT WITH ALPHA-METHYL-P-TYROSINE. 085419 13-04
- BEHAVIOR AND HOW IT IS AFFECTED BY DRUGS IS BEING INVESTIGATED BY THE NORTH-CAROLINA DEPARTMENT OF MENTAL HEALTH BY USING SPIDERS AS LABORATORY ANIMALS. 086126 13-04
- ADRENERGIC CHOLINERGIC INVOLVEMENT IN MODULATION OF LEARNED BEHAVIOR. 086423 13-04
- EFFECTS OF PSYCHOACTIVE DRUGS ON CONFLICT AVOIDANCE BEHAVIOR IN HUMAN SUBJECTS. 086572 13-14
- THE USE OF VALNOCTAMIDE IN THE TREATMENT OF CERTAIN BEHAVIOR DISORDERS IN CHILDREN. 086774 13-14
- BEHAVIOR PROBLEMS IN NURSING HOME PATIENTS: TREATMENT WITH THIORIDAZINE. 086894 13-14
- THE EFFECTIVENESS OF METHYLPHENIDATE HYDROCHLORIDE (RITALIN) ON LEARNING AND BEHAVIOR IN PUBLIC SCHOOL EDUCABLE MENTALLY RETARDED CHILDREN. 087272 13-14
- THE EFFECTS OF EPINEPHRINE AND CHLORPROMAZINE ON VISUAL CLIFF BEHAVIOR IN HOODED AND ALBINO RATS. 088070 13-04
- NEONATAL ADMINISTRATION OF ANDROSTENEDIONE, TESTOSTERONE OR TESTOSTERONE PROPIONATE: EFFECTS ON OVULATION, SEXUAL RECEPTIVITY AND AGGRESSIVE BEHAVIOR IN FEMALE MICE. 088581 13-04
- POTENTIATION OF EFFECTS OF L-DOPA ON CONDITIONED AVOIDANCE BEHAVIOR BY INHIBITION OF EXTRACEREBRAL DOPA-DECARBOXYLASE. 088685 13-03
- FACTORS AFFECTING BEHAVIOR MAINTAINED BY RESPONSE CONTINGENT INTRAVENOUS INFUSIONS OF AMPHETAMINE IN SQUIRREL MONKEYS. 089060 13-04
- SEXUAL BEHAVIOR DURING L-DOPA TREATMENT FOR PARKINSONISM. 091448 13-10
- EFFECTS OF 1-DELTA-9 AND 1-DELTA-8-TRANS-TETRAHYDROCANNABINOL AND CANNABINOL ON SCHEDULE CONTROLLED BEHAVIOR OF PIGEONS AND RATS. 094255 13-04
- REPLACEMENT OF PROGESTERONE WITH A PHENOTHIAZINE IN THE INDUCTION OF MATERNAL BEHAVIOR IN THE OVARIECTOMIZED NULLIPAROUS RAT. 095383 13-04
- INTERACTION OF SEROTONIN ANTAGONISTS WITH KARMALE INDUCED CHANGES IN OPERANT BEHAVIOR AND BODY TEMPERATURE IN THE RAT. 098160 13-03
- MODIFICATION BY TWO BETA-ADRENERGIC BLOCKING DRUGS OF THE EFFECTS OF METHAMPHETAMINE ON BEHAVIOR AND BRAIN METABOLISM OF MICE. 098207 13-04

- THE EFFECTS OF CHLORPROMAZINE ON SELF-PUNITIVE BEHAVIOR. 098483 13-04
- EFFECTS OF L-DELTA-TETRAHYDROCANNABINOL ON TEMPORALLY SPACED RESPONDING AND DISCRIMINATED SIDMAN AVOIDANCE BEHAVIOR IN RATS. 098924 13-04
- THE COMPARISON OF THE STEREOTYPED BEHAVIOR INDUCING EFFECTS OF D-AMPHETAMINE AND L-AMPHETAMINE IN DOGS. 099110 13-04
- INFLUENCE OF PERINATAL DRUGS ON THE BEHAVIOR OF THE NEONATE. 099518 13-15
- THE EFFECT OF YOHIMBINE ON BRAIN SEROTONIN METABOLISM, MOTOR BEHAVIOR AND BODY TEMPERATURE OF THE RAT. 099648 13-03
- A SURVEY OF SELECTED DRUGS ON BEHAVIOR PERFORMANCE IN ETHANOL TREATED RATS. 099649 13-04
- EVIDENCE FOR INHIBITION BY BRAIN SEROTONIN OF MOUSE KILLING BEHAVIOR IN RATS. 099794 13-04
- THE EFFECTS OF MORPHINE, MORPHINONE AND THEBAINE ON THE EEG AND BEHAVIOR OF RABBITS AND CATS. 100217 13-05
- TOXICOMANIC BEHAVIOR FROM ARTANE. 100403 13-15
- DEXTROAMPHETAMINE RESPONSIVE BEHAVIOR DISORDER IN SCHOOL CHILDREN. 100813 13-14
- EFFECT OF THIAZOL-4-YLMETHOXYAMINE, A NEW INHIBITOR OF HISTAMINE BIOSYNTHESIS ON BRAIN HISTAMINE, MONOAMINE LEVELS AND BEHAVIOR. 101541 13-03
- SOCIAL BEHAVIOR OF MONKEYS SELECTIVELY DEPLETED OF MONOAMINES. 101934 13-04
- CONSUMMATORY BEHAVIOR DURING TOLERANCE TO AND WITHDRAWAL FROM CHRONIC DEPRESSION OF CHOLINESTERASE ACTIVITY. 102094 13-04
- EFFECTS OF AMPHETAMINE AND CHLORPROMAZINE ON SECOND-ORDER ESCAPE BEHAVIOR IN SQUIRREL MONKEYS. 102189 13-04
- MANIC BEHAVIOR AND LEVODOPA. 102750 13-15
- EFFECTS OF CHRONIC TRIFLUOPERAZINE ADMINISTRATION IN MULTIPLE DOSAGES ON RAT OFFSPRING BEHAVIOR. 102824 13-04
- THE DIFFERENTIAL EFFECTS OF METHAMPHETAMINE UPON VISUAL EXPLORATORY BEHAVIOR AND SPONTANEOUS MOTOR ACTIVITY IN RHESUS MONKEYS (MACACA-MULATTA). 103040 13-04
- MANIC BEHAVIOR AND LEVODOPA. 103187 13-15
- MANIC BEHAVIOR AND LEVODOPA. 103188 13-15
- MODIFICATION OF CONFLICT BEHAVIOR BY PRIOR EXPERIENCE: EFFECTS OF SCHEDULING AND PENTOBARBITAL. 103652 13-04
- EFFECTS OF CHOLINOLYTIC AGENTS ON BEHAVIOR FOLLOWING DEVELOPMENT OF TOLERANCE TO LOW CHOLINESTERASE ACTIVITY. 103949 13-04
- PROLONGED TREATMENT WITH MORPHINE IN RATS: DRUG/BEHAVIOR INTERACTION UNDER AVERSIVE CONTROL. 103954 13-04
- EXPLORATORY BEHAVIOR IN CHRONIC DISULFOTON POISONING IN MICE. 104136 13-04
- DRUG EFFECTS ON DISTRESS-EVOKED BEHAVIOR IN MICE: METHODOLOGY AND DRUG CLASS COMPARISONS. 104137 13-04
- DRUG-INDUCED SUPPRESSION OF CONDITIONED HYPERTHERMIC AND CONDITIONED AVOIDANCE BEHAVIOR RESPONSE IN RATS. 104144 13-04
- MODIFICATION OF CONFLICT BEHAVIOR BY PRIOR EXPERIENCE: EFFECTS OF TRAINING AND MORPHINE. 104325 13-04
- INFLUENCE OF ISOLATION ON THE AGGRESSIVE BEHAVIOR INDUCED BY APO-MORPHINE IN THE RAT. 104430 13-04
- MATING BEHAVIOR IN THE MALE RAT TREATED WITH P-CHLOROPHENYLALANINE METHYL ESTER ALONE AND IN COMBINATION WITH PARGYLINE. 104431 13-04
- ADRENOCORTICAL FUNCTION AND SEX DIFFERENCES IN ACQUISITION AND EXTINCTION OF ACTIVE AVOIDANCE BEHAVIOR IN THE RAT. 104457 13-04
- CHOLINERGIC MECHANISMS AND AVOIDANCE BEHAVIOR ACQUISITION: EFFECTS OF NICOTINE IN MICE. 104462 13-04
- INFLUENCE OF (-)-DELTA(9) TRANS-TETRAHYDROCANNABINOL AND MESCALINE ON THE BEHAVIOR OF RATS SUBMITTED TO FOOD COMPETITION SITUATIONS. 104578 13-04
- LEARNED ESCAPE BEHAVIOR INDUCED BY BRAIN ELECTRICAL STIMULATION AND VARIOUS NEUROACTIVE AGENTS. 104786 13-04
- METHAMPHETAMINE EFFECTS UPON AVOIDANCE BEHAVIOR DURING LIMBIC SEIZURES IN THE CAT. 104797 13-04
- DIFFERENTIAL ACTION OF DIAZEPAM ON FLIGHT AND DEFENSE BEHAVIOR IN THE CAT. 104808 13-04
- DEVELOPMENT OF BEHAVIORAL TOLERANCE TO MORPHINE AND METHADONE USING THE SCHEDULE CONTROLLED BEHAVIOR OF THE PIGEON. 104809 13-04
- INTERACTIONS BETWEEN NALOXONE AND CHLORPROMAZINE ON BEHAVIOR UNDER SCHEDULE CONTROL. 104826 13-03
- ANALYSIS OF THE ACQUISITION AND EXTINCTION OF FOOD REINFORCED BEHAVIOR IN RATS AFTER THE ADMINISTRATION OF CHLORPROMAZINE. 105012 13-04
- BENZODIAZEPINE ACTIVITY ON SOME ASPECTS OF BEHAVIOR. 105400 13-04
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN. II. INFLUENCE ON BEHAVIOR IN RATS. 105838 13-04
- EFFECTS OF BUFOTENINE AND P-CHLOROPHENYLALANINE ON STRESS INDUCED BEHAVIOR. 106491 13-03
- IMPORTANCE OF CATECHOLAMINE RELEASE BY NERVE IMPULSES FOR FREE OPERANT BEHAVIOR. 106757 13-04
- THE EFFECT OF DIETHYLDITHIOCARBAMATE ON AMPHETAMINE INDUCED BEHAVIOR IN RATS. 106910 13-04
- L-DOPA AND BEHAVIOR. 107548 13-13
- EFFECTS OF MARIHUANA EXTRACT ON THE OPERANT BEHAVIOR OF CHIMPANZEES. 107628 13-04
- INTERACTIONS OF MORPHINE AND NALORPHINE WITH PHYSOSTIGMINE ON OPERANT BEHAVIOR IN THE RAT. 107631 13-04
- BEHAVIOR AND BRAIN CONTENTS OF CATECHOLAMINES IN MICE DURING CHRONIC ADMINISTRATION OF METHYLDOPA. 107964 13-04
- THE EFFECT OF METHYLPHENIDATE ON BEHAVIOR OF THREE SCHOOL CHILDREN: A PILOT INVESTIGATION. 108231 13-11
- EFFECTS OF RESERPINE ON THE SOCIAL BEHAVIOR OF RHESUS MONKEYS. 108699 13-04
- THE EFFECTS OF CHOLINERGIC AGENTS UPON FIXED BEHAVIOR. 110186 13-04
- THE EFFECTS OF NALOXONE, CHLORPROMAZINE, AND HALOPERIDOL PRETREATMENT ON LEVALLORPHAN INDUCED DISRUPTION OF RATS OPERANT BEHAVIOR. 111145 13-04
- THE EFFECT OF METHYLPHENIDATE ON ATTENTIVE BEHAVIOR AND AUTONOMIC ACTIVITY IN HYPERACTIVE CHILDREN. 111147 13-14
- EFFECT OF PSYCHOTROPIC AGENTS ON THE EMOTIONAL BEHAVIOR OF CATS INJECTED WITH ACETYLCHOLINE INTO THE CENTRAL GRAY MATTER. 112007 13-04
- DRUGS IN BEHAVIOR THERAPY. 115611 13-11
- LOXAPINE SUCCINATE IN THE TREATMENT OF UNCONTROLLABLE DESTRUCTIVE BEHAVIOR. 117023 13-11
- PARTIAL ANTAGONISM BY EXOGENOUS CALCIUM OF THE DEPRESSANT EFFECT OF RESERPINE IN RAT SHUTTLE-BOX BEHAVIOR. 117580 13-03
- THE EFFECTS OF MEPROBAMATE ON RISK-TAKING BEHAVIOR: A TEST OF WITTENBORNS HYPOTHESIS. (PH.D. DISSERTATION). 118619 13-14
- PHARMACOLOGICAL AND BIOPHYSICAL AGENTS AND BEHAVIOR. 121321 13-14
- LORDOSIS BEHAVIOR IN MALE RATS TREATED WITH ESTROGEN IN COMBINATION WITH TETRABENAZINE AND NIALAMIDE. 125165 13-04
- EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CANNABIS-SATIVA AND (-)-DELTA(9) TRANS-TETRAHYDROCANNABINOL ON THE BEHAVIOR OF RATS IN AN OPEN-FIELD ARENA. 125251 13-04

## BEHAVIORAL

- BEHAVIORAL EFFECTS OF METHAMPHETAMINE AND ALPHA-METHYLTYROSINE IN THE RAT. 082723 13-04
- BEHAVIORAL RESEARCH AND EXPERIMENTAL PSYCHOSIS. 083378 13-12
- BEHAVIORAL EFFECTS OF DOPAMINE AND P-HYDROXYAMPHETAMINE INJECTED INTO CORPUS-STRIATUM OF RATS. 085234 13-04
- BEHAVIORAL AND ELECTROGRAPHIC EFFECTS OF D-LYSERGIC ACID DIETHYLAMIDE (LSD-25) ON THE PHOTSENSITIVE PAPIO-PAPIO. 086702 13-03
- STIMULANT ACTION OF D-AMPHETAMINE IN RELATION TO TEST COMPARTMENT DIMENSIONS AND BEHAVIORAL MEASURE. 086901 13-04
- BEHAVIORAL EFFECTS OF L-DOPA IN MAN (UNPUBLISHED PAPER). 088387 13-11
- A METHOD TO MEASURE INTERACTIONS OF VARIOUS AGENTS AND ETHANOL ON BEHAVIORAL PERFORMANCE IN RATS. MEDICINE. 088624 13-06
- ELECTROENCEPHALOGRAPHIC AND BEHAVIORAL ALTERATIONS PRODUCED BY DELTA1-TETRAHYDROCANNABINOL. 088973 13-04
- BEHAVIORAL TOLERANCE OF SQUIRREL MONKEYS TO HYPOXIA: A MODEL FOR EVALUATING DRUG THERAPY. 091102 13-06
- EFFECTS OF CYCLOHEXIMIDE ON RESTRICTED BEHAVIORAL PATTERNS OF MICE. 091225 13-04
- CLOZAPINE, A NONCATALEPTOGENIC NEUROLEPTIC FOR THE TREATMENT OF AGITATED CONDITION BEHAVIORAL DISORDERS. 094970 13-14
- PHYSIOLOGIC, SUBJECTIVE AND BEHAVIORAL EFFECTS OF AMPHETAMINE, METHAMPHETAMINE, EPHEDRINE, PHENMETRAZINE, AND METHYLPHENIDATE IN MAN. 095003 13-13
- EEG AND BEHAVIORAL EFFECTS OF DRUG THERAPY IN CHILDREN. 095924 13-14
- BEHAVIORAL EVIDENCE FOR TWO TYPES OF CHOLINERGIC RECEPTORS IN THE CNS. 099646 13-04
- BEHAVIORAL EFFECTS OF LOW DOSES OF DDT. 099850 13-04
- POTENTIATION IN RATS OF BUFOTENIN INDUCED BEHAVIORAL CHANGES BY CHLORPROMAZINE. 101570 13-04
- EFFECTS OF LONG-TERM RESERPINE TREATMENT ON BRAIN TYROSINE HYDROXYLASE AND BEHAVIORAL ACTIVITY. 101718 13-04
- BEHAVIORAL EFFECTS OF MORPHINE AND METHADONE IN RHESUS MONKEYS. 101740 13-04
- BEHAVIORAL AND EEG PATTERNS IN THE CAT COINCIDENT WITH SYSTEMATIC AND INTRACRANIAL STIMULATION WITH D-AMPHETAMINE SULFATE DURING A VISUAL DISCRIMINATION TASK. (PH.D. DISSERTATION). 102635 13-03
- EXPERIENCE WITH ADMINISTRATION OF NOYLEPTIL FOR THE TREATMENT OF EMOTIONAL DISORDERS AND BEHAVIORAL DISTURBANCES IN EPILEPTIC PATIENTS. 102795 13-11
- BEHAVIORAL EFFECTS OF HALOPERIDOL AFTER TYROSINE HYDROXYLASE INHIBITION. 104171 13-04
- A BIPHASIC ACTION OF CENTRAL CHOLINERGIC STIMULATION ON BEHAVIORAL AROUSAL IN THE RAT. 104432 13-04
- DEVELOPMENT OF BEHAVIORAL TOLERANCE TO MORPHINE AND METHADONE USING THE SCHEDULE CONTROLLED BEHAVIOR OF THE PIGEON. 104809 13-04
- BRAIN EXCITABILITY AND BEHAVIORAL REACTIVITY IN MONKEYS UNDER MIEPROBAMATE. 106145 13-04
- EFFECTS OF HALOPERIDOL, TRIFLUOPERIDOL, NITRAZEPAM AND CHLORDIAZEPOXIDE UPON CONDITIONED MIDBRAIN BEHAVIORAL RESPONSES. 106394 13-04
- BEHAVIORAL CONTRAST: AN UNLOCALIZED EFFECT OF A LOCAL ANESTHETIC. 106688 13-04
- THE DELAY OF THE BEHAVIORAL EFFECTS OF DELTA9-TETRAHYDROCANNABINOL IN RATS BY 2-DIETHYLAMINOETHYL 2,2-DIPHENYLVALERATE HCL (SKF-525A). 109030 13-03
- COOPERATIVE STUDIES IN MENTAL HEALTH AND BEHAVIORAL SCIENCES. 109315 13-17

## BEHAVIORAL SCIENCE IN PEDIATRIC MEDICINE.

- EXPLORATION OF CERTAIN BEHAVIORAL PATTERNS INDUCED BY PSYCHOACTIVE AGENTS IN THE RAT. 118690 13-14
- THE BEHAVIORAL EFFECTS OF A NEW PSYCHOACTIVE DRUG (D-CARBINE) ON A PASSIVE AVOIDANCE RESPONSE AND LOCOMOTION AND ITS INTERACTION WITH AMPHETAMINE. 120964 13-04
- STUDIES ON MORPHINE DEMONSTRATING THE PHENOMENA OF PHARMACOLOGIC TOLERANCE, BEHAVIORAL TOLERANCE AND BEHAVIORAL HABITUATION. (PH.D. DISSERTATION). 124104 13-02
- BEHAVIORS MOTIVATED BEHAVIORS PRODUCED BY INCREASED AROUSAL IN THE PRESENCE OF GOAL OBJECTS. 095349 13-04
- DOSE RESPONSE EFFECTS OF ETHANOL ON APPETITIVE BEHAVIORS. 101741 13-04
- THE EFFECT OF DRUGS ON STEREOTYPED AND NONSTEREOTYPED OPERANT BEHAVIORS IN RETARDATES. 104572 13-14

## BEHAVIOUR

- EFFECT OF ACTH ON EXTINCTION OF REWARDED BEHAVIOUR IS BLOCKED BY PREVIOUS ADMINISTRATION OF ACTH. 080109 13-04
- PROPRANOLOL INTERFERES WITH INHIBITORY BEHAVIOUR IN RATS. 086156 13-04
- EFFECT OF PARA-CHLOROPHENYLALANINE ON THE BEHAVIOUR OF CASTRATED MALE RATS. 087360 13-04
- EFFECTS OF SMALL DOSES OF HALOPERIDOL ON TIMING BEHAVIOUR. 088640 13-04
- THE EFFECT OF ANTICHOLINERGICS ON THE BEHAVIOUR OF THE RAT IN A SOLITARY AND IN A SOCIAL SITUATION. 088730 13-04
- PERSISTENCE OF DOSE RELATED BEHAVIOUR IN MICE. 093953 13-04
- SUPPRESSION OF FIGHTING BEHAVIOUR IN RABBITS BY PAIRED EMERGENCE FROM ANESTHESIA. 095364 13-04
- DISTURBED PATTERNS OF BEHAVIOUR IN MORPHINE TOLERANT AND ABSTINENT RATS. 096150 13-04
- STIMULUS AND RESPONSE SPECIFICITY IN THE HABITUATION OF ANTIPREDATOR BEHAVIOUR IN THE RING DOVE (STREPTOPELIA-RISORIA). 100047 13-09
- ALCOHOL, THIORIDAZINE AND CHLORPROMAZINE EFFECTS ON SKILLS RELATED TO DRIVING BEHAVIOUR. 101615 13-14
- A PSYCHOPHARMACOLOGICAL ANALYSIS OF BEHAVIOUR IN RATS. 102884 13-04
- INDUCTION OF BIZARRE BEHAVIOUR IN RATS BY P-CHLOROAMPHETAMINE, A SEROTONIN DEPLETOR, AFTER REPEATED DRUG ADMINISTRATION. 104793 13-04
- EFFECTS OF SOME ANTICHOLINERGIC DRUGS ON WATER MAZE LEARNED BEHAVIOUR IN MICE. 104794 13-04
- FURTHER ASPECTS OF THE EXPLORATORY BEHAVIOUR IN AGGRESSIVE MICE. 104803 13-04
- EXTINCTION OF FEAR I: EFFECTS OF ANYLOBARBITONE AND DEXAMPHETAMINE GIVEN SEPARATELY AND IN COMBINATION ON FEAR AND EXPLORATORY BEHAVIOUR IN RATS. 104827 13-04
- THE INFLUENCE OF ANTICHOLINERGIC HALLUCINOGENS ON SPONTANEOUS AND CONDITIONED BEHAVIOUR IN RATS. 105994 13-04
- BEHAVIOUR OF UNTREATED MICE TO ALCOHOL OR CHLORDIAZEPOXIDE TREATED PARTNERS. 105996 13-04
- THE EFFECT OF PYRITHIOXINE (ENCEPHABOL) ON BEHAVIOUR OF RATS, MALNOURISHED IN EARLY LIFE. 105999 13-14
- THE EFFECT OF AMITRIPTYLINE ON THE BEHAVIOUR AND EEG OF RATS AFTER DEPLETION OF SEROTONIN BY PARA-CHLOROPHENYLAMINE. 106093 13-03
- DISSOCIATION BETWEEN EEG AND SPONTANEOUS BEHAVIOUR OF RATS AFTER ATROPINE. 106094 13-03
- EFFECT OF ESERINE INJECTED INTRAVENTRICULARLY ON BEHAVIOUR AND ON ACTIVITY OF CHOLINESTERASE IN SOME STRUCTURES OF THE CEREBRAL VENTRICLES OF THE CONSCIOUS CAT. 106424 13-04

# Subject Index

# Psychopharmacology Abstracts

- EXTINCTION OF FEAR II: EFFECTS OF CHLORDIAZEPOXIDE AND CHLORPROMAZINE ON FEAR AND EXPLORATORY BEHAVIOUR IN RATS. 110177 13-04
- THE EFFECTS OF ACUTELY ADMINISTERED FENFLURAMINE ON ACTIVITY AND EATING BEHAVIOUR. 110191 13-04
- POSSIBLE ROLE OF THE PITUITARY/ADRENOCORTICAL AXIS IN AGGRESSIVE BEHAVIOUR. 111873 13-04
- INTRACEREBRAL LESIONS CAUSING STEREOTYPED BEHAVIOUR IN RATS. 117681 13-03
- SEXUAL BEHAVIOUR AND TESTOSTERONE IN THE FEMALE RAT. 123276 13-04
- THE INFLUENCE OF PROLONGED AMPHETAMINE TREATMENT AND AMPHETAMINE WITHDRAWAL ON BRAIN BIOGENIC AMINE CONTENT AND BEHAVIOUR IN THE RAT. 125163 13-03
- BEHAVIOURAL**
- EVALUATION OF TRANQUILLISERS WITH SUBNORMAL PATIENTS. 3. BEHAVIOURAL CHANGES. 099747 13-14
- BIOCHEMICAL AND BEHAVIOURAL EFFECTS OF SOME HALO-SUBSTITUTED VINYL PHOSPHORUS ESTERS. 102102 13-03
- THE BEHAVIOURAL EFFECTS OF LEVALLORPHAN, CYPRENORPHINE (M-285) AND AMPHETAMINE ON REPEATED Y-MAZE PERFORMANCE IN RATS. 102190 13-04
- ALTERATION OF BEHAVIOURAL CHANGES INDUCED BY 3,4,5-TRIMETHOXYPHENYLETHYLAMINE (MESCALINE) BY PRETREATMENT WITH 2,4,5-TRIMETHOXYPHENYLETHYLAMINE: A SELF-EXPERIMENT. 102193 13-12
- SOME ANTICHOLINERGIC LIKE BEHAVIOURAL EFFECTS OF TRANS-( $\Delta$ )-DELTA-8-TETRAHYDROCANNABINOL. 102243 13-04
- BEHAVIOURAL EFFECTS OF D-AMPHETAMINE IN YOUNG CHICKS TREATED WITH P-CL-PHENYLALANINE. 103953 13-04
- A POSSIBLE SYNAPTIC MECHANISM UNDERLYING THE SIMILAR BEHAVIOURAL EFFECTS OF ADRENALINE-LIKE AND ACETYLCHOLINE-LIKE DRUGS. 106846 13-13
- POSSIBLE ROLE OF DOPAMINE CONTAINING NEURONES IN THE BEHAVIOURAL EFFECTS OF COCAINE. 109196 13-03
- BEHAVIOURAL AND BIOCHEMICAL EFFECTS OF L-DOPA AFTER INHIBITION OF DOPAMINE-BETA-HYDROXYLASE IN RESERPINE PRETREATED RATS. 119552 13-03
- BEHAVIOURAL EFFECT OF AMANTADINE IN RATS AFTER INHIBITION OF MONOAMINE SYNTHESIS, STORAGE AND RECEPTOR INTERACTION. 123277 13-03
- BENACTYZINE**
- COMBINATION OF MEPROBAMATE AND BENACTYZINE (DEPROL) AND CONSTITUENTS IN NEUROTIC DEPRESSED OUTPATIENTS. 100208 13-10
- THE COMPARISON OF THE EFFECTS OF ATROPINE AND BENACTYZINE ON SOME STRUCTURES OF LIMBIC SYSTEM OF THE RATS. 106092 13-03
- BENZENE**
- THE DEVELOPMENT OF SYNTHETIC TECHNIQUES TO INTRODUCE A FUNCTIONALIZED CARBON SUBSTITUENT REGIOSELECTIVELY INTO THE BENZENE RING OF AN INDOLE NUCLEUS. 112783 13-01
- BENZENESULFONYLTRYPAMINES**
- HYDROXYINDOLE-O-METHYLTRANSFERASE VI: INHIBITORY ACTIVITIES OF SUBSTITUTED BENZOYLTRYPTAMINES AND BENZENESULFONYLTRYPAMINES. 082762 13-01
- BENZETIMIDE**
- LONG-ACTING ANTIPARKINSONIAN DRUGS: I. PILOT STUDY OF BENZETIMIDE (342 CASES). 096113 13-07
- BENZOCTAMINE**
- THE ANTIINOCICEPTIVE ACTION OF A NOVEL ANXIOLYTIC AND TENSIOLYTIC DRUG (BENZOCTAMINE) IN TWO DIFFERENT WRITHING SYNDROMES. 118200 13-02
- BENZODIAZEPINE**
- LOCUS OF CENTRAL DEPRESSANT ACTION OF SOME BENZODIAZEPINE ANALOGUES. 089285 13-03
- ACTION OF A BENZODIAZEPINE DERIVATIVE, RO-5-4200, ON THE EEG AND SLEEP CYCLE IN PATIENTS WITH INSOMNIA. 098662 13-07
- QUANTITATIVE POLYGRAPHIC EVALUATION OF EMOTIONAL TENSION IN THE STUDY OF A NEW BENZODIAZEPINE. 100537 13-07
- PRELIMINARY STUDIES ON THE CENTRAL EFFECTS OF LORAZEPAM, A NEW BENZODIAZEPINE. 102214 13-07
- BENZODIAZEPINE ACTIVITY ON SOME ASPECTS OF BEHAVIOR. 105400 13-04
- A SIMPLE AND SPECIFIC SCREEN FOR BENZODIAZEPINE LIKE DRUGS. 114433 13-06
- THE CHROMATOGRAPHIC SEPARATION OF MIXTURES OF BENZODIAZEPINE DRUGS. 115898 13-06
- ELECTROPHYSIOLOGICAL STUDY OF THE ACTION OF A NEW BENZODIAZEPINE DERIVATIVE (ORF-8063) ON THE CENTRAL NERVOUS SYSTEM. 117025 13-04
- THE ASSOCIATION OF BENZODIAZEPINE AND PHENOTHIAZINE IN SCHIZOPHRENIA. 121458 13-08
- PHARMACOTHERAPY OF NEUROSIS - BENZODIAZEPINE. 123049 13-10
- BENZODIAZEPINES**
- ENHANCEMENT OF AMPHETAMINE INDUCED STEREOTYPED BEHAVIOR BY BENZODIAZEPINES. 078936 13-04
- A QUANTITATIVE ELECTROENCEPHALOGRAPHIC COMPARISON OF SOME BENZODIAZEPINES IN THE PRIMATE. 100212 13-03
- EFFECTS OF BENZODIAZEPINES ON SPONTANEOUS ELECTRICAL ACTIVITY OF SUBCORTICAL AREAS IN BRAIN OF CAT. 103649 13-03
- EFFECT OF BENZODIAZEPINES UPON SACCADIC EYE MOVEMENTS IN MAN. 104368 13-13
- INCREASED AGGRESSION AND TOXICITY IN GROUPED MALE MICE TREATED WITH TRANQUILIZING BENZODIAZEPINES. 104380 13-05
- STRUCTURE ACTIVITY RELATIONSHIP OF 5-TRIAZOLE 1,4-BENZODIAZEPINES IN CENTRAL NERVOUS DEPRESSANT ACTION. 105390 13-02
- ALCOHOL AND THE BENZODIAZEPINES: THE INTERACTION BETWEEN INTRAVENOUS ETHANOL AND CHLORDIAZEPOXIDE AND DIAZEPAM. 106136 13-13
- EFFECTS ON THE AMYGDALO-HIPPOCAMPAL EVOKED POTENTIAL IN THE CAT OF FOUR BENZODIAZEPINES AND SOME OTHER PSYCHOTROPIC DRUGS. 125960 13-03
- BENZODIAZEPINONE**
- EFFECT OF 7-BROMO-5-(2-PYRIDYL)-3H-1,4-BENZODIAZEPINONE, BROMAZEPAM (RO-5-3350), A NEW MINOR TRANQUILIZER, ON PSYCHONEUROSIS WITH SPECIAL REFERENCE TO THE OBSSIVE-COMPULSIVE SYMPTOMS. 118969 13-10
- BENZODIAZEPINOXAZOLE**
- ANXIOLYTIC SEDATIVES. I. SYNTHESIS AND PHARMACOLOGY OF BENZODIAZEPINOXAZOLE DERIVATIVES AND ANALOGS. 114765 13-01
- PHARMACOLOGY OF NEW MINOR TRANQUILIZERS, BENZODIAZEPINOXAZOLE DERIVATIVES. 116385 13-02
- BENZODIOXANE**
- ON THE RELATIONSHIP BETWEEN THE CHEMICAL STRUCTURE AND PSYCHOTROPIC ACTIVITY AMONG DERIVATIVES OF BENZODIOXANE AND TRIMETHYLBENZOIC AND TRIMETHOXYBENZOIC ACIDS. 111291 13-03
- BENZOYLTRYPTAMINES**
- HYDROXYINDOLE-O-METHYLTRANSFERASE VI: INHIBITORY ACTIVITIES OF SUBSTITUTED BENZOYLTRYPTAMINES AND BENZENESULFONYLTRYPAMINES. 082762 13-01
- BENZOTROPINE**
- COMBINED INTRAMUSCULAR ADMINISTRATION OF DEPOT FLUPHENAZINE AND BENZOTROPINE MESYLATE IN CHRONIC SCHIZOPHRENIC PATIENTS. 098602 13-08
- BENZYL**
- SOME BIOCHEMICAL AND PHARMACOLOGICAL ACTIONS OF (-)-ERYTHRO-META-(META-CHLOROBENZOYL) 2 (1-AMINOETHYL) BENZYL ALCOHOL: A DERIVATIVE OF METARAMINOL. 101702 13-03
- BETA-ADRENERGIC**
- MODIFICATION BY TWO BETA-ADRENERGIC BLOCKING DRUGS OF THE EFFECTS OF METHAMPHETAMINE ON BEHAVIOR AND BRAIN METABOLISM OF MICE. 098207 13-04
- THE EFFECT OF SOME BETA-ADRENERGIC BLOCKING AND OTHER DRUGS ON BRAIN LACTATE LEVELS FOLLOWING ELECTROSHOCK. 100218 13-03

- BETA-ALANINE**  
EFFECTS OF MORPHOLINO, PYRROLIDINO, PIPERIZINO, AND CYCLOOXYL  
DERIVATIVES OF BETA-ALANINE ON BRAIN AMINES AND AMINO  
ACIDS. 082729 13-04
- BETA-PHENETHYLAMINE**  
THE EFFECT OF BETA-PHENETHYLAMINE ON NORADRENALINE  
CONCENTRATIONS IN GUINEA-PIG BRAIN. 112287 13-03
- BETA-RECEPTOR**  
THE EFFECT OF SYMPATHETIC BETA-RECEPTOR BLOCKING AGENTS ON  
THE COURSE OF DELIRIUM-TREMENS. 086073 13-13
- BIASED**  
DOSE RESPONSE AND BIASED SET STUDY OF AN AMPHETAMINE AND A  
BARBITURATE. 104379 13-16
- BICYCLE**  
THE SEROTONIN CATECHOLAMINE - DREAM BICYCLE: A CLINICAL STUDY  
(UNPUBLISHED PAPER). 085951 13-13
- BILATERAL**  
DEPRESSION AND CEREBRAL DOMINANCE: A STUDY OF BILATERAL  
INTRACAROTID AMYTAL IN ELEVEN DEPRESSED PATIENTS. 093815 13-09  
NEUROLEPTANALGESIA IN BILATERAL SIMULTANEOUS CAROTID  
ANGIOGRAPHY. 102281 13-14  
THE THERAPEUTIC POSSIBILITIES OF L-DOPA AND AMANTADINE IN  
PARKINSONIAN PATIENTS WHO HAVE UNDERGONE BILATERAL  
THALAMOTOMY. 111608 13-14
- BILIARY**  
IMPAIRED BILIARY EXCRETION OF PHENOL 3,6 DIBROMPHTHALEIN  
DISULFONATE IN NEONATAL GUINEA-PIGS. 089284 13-03
- BINDING**  
FURTHER STUDIES ON THE NATURE OF PERSISTENT RESERPINE BINDING:  
EVIDENCE FOR REVERSIBLE AND IRREVERSIBLE BINDING. 086820 13-03  
INFLUENCE OF PH ON AGGREGATION AND PROTEIN BINDING OF  
BARBITURIC ACID AND AMYLOBARBITONE. 089049 13-03  
INSULIN RECEPTORS IN THE LIVER: SPECIFIC BINDING OF 125I INSULIN  
TO THE PLASMA MEMBRANE AND ITS RELATION TO INSULIN  
BIOACTIVITY (UNPUBLISHED PAPER). 092377 13-03  
THYROID HORMONE BINDING PROTEINS AND ACUTE PSYCHIATRIC  
ILLNESS. 098733 13-14  
FACTORS THAT AFFECT THE BINDING AND UPTAKE OF GABA BY BRAIN  
TISSUE. 111216 13-03  
INTRACELLULAR BINDING AND METABOLISM OF IMIPRAMINE AND  
IMIPRAMINE-N-OXIDE. 122577 13-03  
BINDING AND LOCATION OF RESPERINE 123266 13-03
- BIOACTIVITY**  
INSULIN RECEPTORS IN THE LIVER: SPECIFIC BINDING OF 125I INSULIN  
TO THE PLASMA MEMBRANE AND ITS RELATION TO INSULIN  
BIOACTIVITY (UNPUBLISHED PAPER). 092377 13-03
- BIOCHEMICAL**  
BIOCHEMICAL CHANGES IN DEPRESSION. 087469 13-09  
BIOCHEMICAL LABORATORY OF CATECHOLAMINES. 092324 13-13  
BIOCHEMICAL PHARMACOLOGY OF CATECHOLAMINES AND ITS CLINICAL  
IMPLICATIONS (UNPUBLISHED PAPER). 092856 13-03  
BIOCHEMICAL FACTORS IN ANXIETY NEUROSIS. 095007 13-17  
BIOCHEMICAL RESEARCH IN SCHIZOPHRENIA. 095478 13-08  
THE CENTRAL METABOLISM OF SEROTONIN IN THE CAT DURING  
INSOMNIA: A NEUROPHYSIOLOGICAL AND BIOCHEMICAL STUDY  
AFTER ADMINISTRATION OF P-CHLOROPHENYLALANINE OR  
DESTRUCTION OF THE RAPHE SYSTEM. 099261 13-03  
ORTHOMOLECULAR TREATMENT: A BIOCHEMICAL APPROACH TO  
TREATMENT OF SCHIZOPHRENIA. 101158 13-08  
SOME BIOCHEMICAL AND PHARMACOLOGICAL ACTIONS OF (-)ERYTHRO-  
META-(META CHLOROBENZOXY) 2 (1-AMINOETHYL) BENZYL  
ALCOHOL: A DERIVATIVE OF METARAMINOL. 101702 13-03
- BIOCHEMICAL AND BEHAVIOURAL EFFECTS OF SOME HALO-SUBSTITUTED  
VINYL PHOSPHORUS ESTERS. 102102 13-03**
- BIOCHEMICAL STUDIES OF CEREBRAL SUBFRACTIONS AFTER CHRONIC  
ADMINISTRATION OF PYRIDAZINE (N MORPHOLINE 3-ETHYLAMINE 4-  
PHENYL 6-PYRIDAZINE HYDROCHLORIDE, AG-620). 102694 13-03**
- ENDOGENOUS DEPRESSIONS WITH AND WITHOUT DISTURBANCES IN THE  
5-HYDROXYTRYPTAMINE METABOLISM: A BIOCHEMICAL  
CLASSIFICATION 104832 13-13**
- BIOCHEMICAL MECHANISMS OF TRANSFERABLE DRUG RESISTANCE.  
108522 13-03**
- BEHAVIOURAL AND BIOCHEMICAL EFFECTS OF L-DOPA AFTER INHIBITION  
OF DOPAMINE-BETA-HYDROXYLASE IN RESERPINE PRETREATED RATS.  
119552 13-03**
- BIOCHEMICAL AND PHARMACOLOGICAL PROPERTIES OF P-AMINO-  
GAMMA-MORPHOLINOBUTYROPHENONE (FG-5310), A NEW SELECTIVE  
MAO INHIBITOR. 123272 13-03**
- BIOCHEMISTRY  
BIOCHEMISTRY AND PHARMACOLOGY. 098400 13-17**
- BIOELECTRIC  
THE INFLUENCE OF HARMINE ON BIOELECTRIC ACTIVITY IN CERVEAU  
ISOLE RATS. 125071 13-03**
- BIOELECTRICAL  
THE EFFECTS OF MORPHINE, PENTOBARBITAL AND CHLORPROMAZINE  
ON BIOELECTRICAL POTENTIALS EVOKED IN THE BRAIN STEM OF THE  
CAT BY ELECTRICAL STIMULATION OF THE GINGIVA AND TOOTH  
PULP. 094254 13-05  
THE INFLUENCE OF HARMINE ON THE BIOELECTRICAL ACTIVITY IN THE  
RAT HIPPOCAMPUS. 124106 13-03**
- BIOGENESIS  
PEYOTE CONSTITUENTS: CHEMISTRY, BIOGENESIS, AND BIOLOGICAL  
EFFECTS. 069047 13-12**
- BIOGENIC  
DOXEPIN: EFFECTS ON TRANSPORT OF BIOGENIC AMINES IN MAN.  
104571 13-13  
EFFECT OF P-NITROMETHYLAMPHETAMINE ON BIOGENIC AMINES AND  
THEIR AMINO ACID PRECURSORS IN RAT BRAIN. 108794 13-03  
THE INTERFERENCE OF TRICYCLIC PSYCHOACTIVE DRUGS ON THE  
UPTAKE OF BIOGENIC AMINES BY ISOLATED MAST CELLS. 123282 13-03  
THE INFLUENCE OF PROLONGED AMPHETAMINE TREATMENT AND  
AMPHETAMINE WITHDRAWAL ON BRAIN BIOGENIC AMINE CONTENT  
AND BEHAVIOUR IN THE RAT. 125163 13-03**
- BIOLOGIC  
METHODOLOGIC CONSIDERATIONS OF THE EVALUATION OF HYPNOTICS  
IN MAN: A BIOLOGIC ASSAY OF PENTOBARBITAL AND SECOBARBITAL.  
100261 13-16**
- BIOLOGICAL  
PEYOTE CONSTITUENTS: CHEMISTRY, BIOGENESIS, AND BIOLOGICAL  
EFFECTS. 069047 13-12  
BIOLOGICAL DISPOSITION AND METABOLIC FATE OF FLUPHENAZINE-14C  
IN THE DOG AND RHESUS MONKEY. 086580 13-03  
BIOLOGICAL DISPOSITION OF PENTYLENETETRAZOL-10-14C IN RATS AND  
HUMANS. 087061 13-03  
MECHANISM OF ACTION OF ANTIPSYCHOTIC DRUGS ON BIOLOGICAL  
ELECTRON TRANSPORT. 087365 13-03  
THE POSITION OF BIOLOGICAL PSYCHIATRY AMONG THE PSYCHIATRIC  
DISCIPLINES. 087865 13-17  
MONOIODINSULIN: DEMONSTRATION OF ITS BIOLOGICAL ACTIVITY  
(UNPUBLISHED PAPER). 092898 13-06  
HISTORICAL AND BIOLOGICAL ASPECTS OF PSYCHOCHEMISTRY.  
093646 13-17  
6-BETA-HYDROXY-DELTA(1) TETRAHYDROCANNABINOL SYNTHESIS AND  
BIOLOGICAL ACTIVITY. 103707 13-01  
PHARMACOKINETICS AND BIOLOGICAL EFFECTS OF NORTRIPTYLINE IN  
MAN. 112297 13-13  
BIOLOGICAL HALF-LIFE OF CHLORDIAZEPoxide AND ITS METABOLITE,  
DEMOXEPAM, IN MAN. 120028 13-13**

## Subject Index

## Psychopharmacology Abstracts

- INFLUENCE OF ACTIVE BIOLOGICAL TREATMENT ON THE TIME OF DURATION OF REMISSION IN MANIC-DEPRESSIVE PSYCHOSIS.**  
122942 13-09
- A NEW GAS CHROMATOGRAPHIC METHOD FOR THE DEMONSTRATION OF CANNABIS INTAKE BY ANALYSIS OF BIOLOGICAL FLUIDS.**  
123265 13-06
- BIOLGY**  
CANNABIS: CHEMISTRY AND BIOLOGY.  
104764 13-13
- BIOMEDICAL**  
THE NIAH BIOMEDICAL PROGRAM OF MARIHUANA RESEARCH.  
(UNPUBLISHED PAPER).  
126570 13-17
- BIOPHYSICAL**  
PHARMACOLOGICAL AND BIOPHYSICAL AGENTS AND BEHAVIOR.  
121321 13-14
- BIOPSY**  
RENAL FUNCTIONAL DAMAGE DURING THE COURSE OF LITHIUM THERAPY: A CASE REPORT WITH RENAL BIOPSY FINDINGS.  
100206 13-15
- BIOSYNTHESIS**  
INHIBITION OF NOREPINEPHRINE BIOSYNTHESIS BY CHLORPROMAZINE IN THE GUINEA-PIG VAS-DEFERENS.  
082784 13-03
- OPIUM ALKALOIDS IX. DETECTION OF COREXIMINE IN PAPAVER-SOMNIFERUM L. BASED ON ITS BIOSYNTHESIS FROM RETICULINE.**  
086577 13-01
- EFFECTS OF CHLORPROMAZINE ON CELL WALL BIOSYNTHESIS AND INCORPORATION OF OROTIC ACID INTO NUCLEIC ACIDS IN BACILLUS-MEGATERIUM.**  
088517 13-03
- BIOSYNTHESIS OF ADRENAL CATECHOLAMINES DURING ADAPTATION TO REPEATED IMMOBILIZATION STRESS (UNPUBLISHED PAPER).**  
093553 13-03
- EFFECT OF THIAZOL-4-YLMETHOXYAMINE, A NEW INHIBITOR OF HISTAMINE BIOSYNTHESIS ON BRAIN HISTAMINE, MONOAMINE LEVELS AND BEHAVIOR.**  
101541 13-03
- BIOTRANSFORMATION**  
EXCRETION AND BIOTRANSFORMATION OF THE ENANTHATE ESTER OF FLUPHENAZINE-14C BY THE DOG.  
086578 13-03
- BIPHASIC**  
A BIPHASIC RADIO-CONTROLLED STIMULATOR.  
088575 13-06
- PHYSOSTIGMINE AND PENTOBARBITAL: BIPHASIC INTERACTION IN MICE.**  
104329 13-03
- A BIPHASIC ACTION OF CENTRAL CHOLINERGIC STIMULATION ON BEHAVIORAL AROUSAL IN THE RAT.**  
104432 13-04
- BIPOLAR**  
DIFFERENTIAL RESPONSE TO LITHIUM IN BIPOLAR VS UNIPOLAR DEPRESSED PATIENTS (UNPUBLISHED PAPER).  
093454 13-09
- BIZARRE**  
INDUCTION OF BIZARRE BEHAVIOUR IN RATS BY P-CHLOROAMPHETAMINE, A SEROTONIN DEPLETOR, AFTER REPEATED DRUG ADMINISTRATION.  
104793 13-04
- BLACK**  
EFFECTS OF DRUG STATE CHANGES UPON BLACK WHITE DISCRIMINATION LEARNING IN RATS.  
125253 13-04
- BLADDER**  
CHANGES IN THE BLADDER AND SPHINCTER TONUS OF THE BLADDER BY MEANS OF THYMOLEPTICS: CYSTOMANOMETRIC STUDIES IN MAN.  
122292 13-15
- BLAST**  
IN VITRO EFFECTS OF CHLORPROMAZINE AND MEPROBAMATE ON BLAST TRANSFORMATION AND CHROMOSOMES.  
088626 13-03
- BLASTODERMS**  
LSD: TERATOGENIC ACTION IN CHICK BLASTODERMS.  
089286 13-05
- BLOCKADE**  
CENTRAL CHOLINERGIC BLOCKADE AND TWO-WAY AVOIDANCE ACQUISITION: THE ROLE OF RESPONSE DISINHIBITION.  
102097 13-04
- BLOCKADE OF NORADRENALINE UPTAKE BY 34276-BA, A NEW ANTIDEPRESSANT DRUG.**  
102696 13-03
- CATECHOLAMINE DEPLETION AND ADRENERGIC NEURONE BLOCKADE: STUDIES WITH DEBRISOQUINE.**  
104011 13-03
- BLOCKADE OF INTRAVENOUS AMPHETAMINE EUPHORIA IN MAN.**  
105083 13-13
- INHIBITION OF D-AMPHETAMINE HYPERTHERMIA BY BLOCKADE OF DOPAMINE RECEPTORS IN RABBITS.**  
105404 13-03
- PHARMACOLOGICAL BLOCKADE OF AMPHETAMINE EFFECTS IN SUBJECTS DEPENDENT ON CENTRAL STIMULANTS.**  
123292 13-13
- BLOCKED**  
EFFECT OF ACTH ON EXTINCTION OF REWARDED BEHAVIOUR IS BLOCKED BY PREVIOUS ADMINISTRATION OF ACTH.  
080109 13-04
- BLOCKER**  
ASPECTS OF THE GASTRIC ACID ANTISECRETORY ACTIVITY OF 3,3-DIMETHYL-1-(3-METHYLAMINOPROPYL)-1-PHENYLPHTHALAN: A BLOCKER OF NOREPINEPHRINE UPTAKE.  
106526 13-03
- BLOCKERS**  
POTENTIATION OF BARBITAL NARCOSIS IN MICE BY CHOLINOMIMETICS AND CHOLINESTERASE BLOCKERS.  
122047 13-03
- BLOCKING**  
EFFECTS OF ADRENERGIC BLOCKING AGENTS ON PERCEPTUAL TYPES IN AN AUTONOMIC CONDITIONING PARADIGM (UNPUBLISHED PAPER).  
085292 13-17
- THE EFFECT OF SYMPATHETIC BETA-RECEPTOR BLOCKING AGENTS ON THE COURSE OF DELIRIUM-TREMENS.**  
086073 13-13
- MECHANISM OF THE ANTAGONISM BY 5-HYDROXYTRYPTAMINE OF THE TOXICITY DUE TO CERTAIN CHOLINERGIC BLOCKING AGENTS.**  
086898 13-03
- CHARACTERIZATION OF THE BLOCKING EFFECTS OF EN-1639A (N-CYCLOPROPYLMETHYL 7,8-DIHYDRO 14-HYDROXYNORMORPHINE HCL). (UNPUBLISHED PAPER).**  
088400 13-13
- MODIFICATION BY TWO BETA-ADRENERGIC BLOCKING DRUGS OF THE EFFECTS OF METHAMPHETAMINE ON BEHAVIOR AND BRAIN METABOLISM OF MICE.**  
098207 13-04
- THE EFFECT OF SOME BETA-ADRENERGIC BLOCKING AND OTHER DRUGS ON BRAIN LACTATE LEVELS FOLLOWING ELECTROSHOCK.**  
100218 13-03
- DIAZEPAM AND NEUROMUSCULAR BLOCKING DRUGS.**  
101525 13-03
- EFFECTS OF ALPHA-METHYLTYROSINE AND ADRENERGIC BLOCKING AGENTS ON THE FACILITATING ACTION OF AMPHETAMINE AND NICOTINE ON LEARNING IN RATS.**  
104373 13-04
- EFFECT OF POST-TRIAL INJECTION OF BETA ADRENERGIC BLOCKING AGENTS ON A CONDITIONED REFLEX IN RATS.**  
104577 13-04
- THE INFLUENCE OF ADRENERGIC RECEPTOR BLOCKING AGENTS, AMPHETAMINE, AND 6-AMINONICOTINAMIDE ON THERMOREGULATION.**  
119553 13-03
- PHARMACOLOGICAL INTERACTION OF LORAZEPAM WITH THIOPENTONE SODIUM AND SKELETAL NEUROMUSCULAR BLOCKING DRUGS.**  
120410 13-03
- BLOOD**  
BLOOD VOLUME FOLLOWING ACUTE ETHYL-ALCOHOL INGESTION IN DOGS.  
078165 13-03
- LABORATORY PREDICTIONS OF INFANTILE AUTISM BASED ON 5-HYDROXYTRYPTAMINE EFFLUX FROM BLOOD PLATELETS AND THEIR CORRELATION WITH THE RIMLAND E-2 SCORE.**  
082634 13-13
- BLOOD LEVELS OF DIAZEPAM (VALIUM) AND N-DESMETHYLDIAZEPAM IN THE EPILEPTIC CHILD. A PRELIMINARY REPORT.**  
093821 13-13
- AGGRESSION AND FLIGHT REACTIONS INDUCED BY CONTINUOUS INCREASE OF BLOOD OSMOLALITY.**  
098300 13-04
- BLOOD PRESSURE/PULSE RESPONSES TO INTRAVENOUS METHACHOLINE IN PSYCHIATRIC ILLNESS.**  
102836 13-13
- ETHYL-ALCOHOL: BLOOD LEVELS AND PERFORMANCE DECREMENTS AFTER ORAL ADMINISTRATION TO MAN.**  
104378 13-14
- THE CENTRALLY INDUCED FALL IN BLOOD PRESSURE AFTER THE INFUSION OF AMPHETAMINE AND RELATED DRUGS INTO THE VERTEBRAL ARTERY OF THE CAT.**  
106911 13-03
- TETRAHYDROISOQUINOLINE ALKALOIDS IN THE ADRENAL MEDULLA AFTER PERFUSION WITH BLOOD CONCENTRATIONS OF (14C)ACETALDEHYDE.**  
108281 13-03
- DETERMINATION OF THERAPEUTIC BLOOD LEVELS OF METHAMPHETAMINE AND PENTOBARBITAL BY GC.**  
111999 13-16

- CHOLINESTERASE ACTIVITY IN THE ERYTHROCYTES AND BLOOD PLASMA OF SCHIZOPHRENIC PATIENTS DURING TREATMENT WITH DIMETHYLOAMINOETHANOLIC ESTERS. 118204 13-08
- CENTRAL EFFECTS OF SYMPATHOMIMETIC AMINES ON THE BLOOD PRESSURE. 120718 13-03
- THE EFFECT OF PHENYL-ALKYL HYDRAZINES ON CAT BLOOD PRESSURE. 122046 13-03
- THE EFFECT OF ETHANOL ON PHENOBARBITONE AND PENTOBARBITONE ABSORPTION INTO RAT BLOOD AND BRAIN. 122551 13-03
- A COMPARISON OF FG-5310, A NEW SELECTIVE MONOAMINE OXIDASE INHIBITOR, AND OTHER MAO INHIBITORS ON THE BLOOD PRESSURE RESPONSE TO TYRAMINE. 123287 13-03
- BLOOD-BRAIN**
- EFFECTS OF HYDROCORTISONE AND CYCLOHEXIMIDE ON BLOOD-BRAIN BARRIER FUNCTION IN THE RAT. 078949 13-03
- BLOOD-BRAIN BARRIER TO H<sub>3</sub>-GAMMA-AMINOBUTYRIC ACID IN NORMAL AND AMINOXYACETIC ACID TREATED ANIMALS. 082756 13-03
- BODIES**
- MAINTENANCE OF NORADRENALINE IN NEURONAL CELL BODIES AND TERMINALS: EFFECT OF FREQUENCY OF STIMULATION. 105410 13-03
- BODY**
- GAS CHROMATOGRAPHY MASS SPECTROMETRY OF NORTRIPTYLINE IN BODY FLUIDS OF MAN. 077931 13-16
- THE ROLE OF BODY ATTITUDES AND ACQUIESCENCE IN EPINEPHRINE AND PLACEBO EFFECTS. 079188 13-14
- INTERACTION OF SEROTONIN ANTAGONISTS WITH HARMALINE INDUCED CHANGES IN OPERANT BEHAVIOR AND BODY TEMPERATURE IN THE RAT. 098160 13-03
- COURSE OF BODY TEMPERATURE IN NEUROLEPTIC INJECTION TREATMENTS: STATISTICAL EVALUATION OF RETROSPECTIVE DATA. 098272 13-15
- THE EFFECT OF YOHIMBINE ON BRAIN SEROTONIN METABOLISM, MOTOR BEHAVIOR AND BODY TEMPERATURE OF THE RAT. 099648 13-03
- DUAL EFFECT OF DEXAMPHETAMINE ON BODY TEMPERATURE IN THE RAT. 099651 13-05
- THE INFLUENCE OF SUBCHRONIC TETRAHYDROCANNABINOL AND CANNABIS TREATMENT ON FOOD AND WATER INTAKE, BODY WEIGHT AND BODY TEMPERATURE OF RATS. 123267 13-03
- BOUND**
- DRUGS AND STIMULUS BOUND ATTACK. 088672 13-04
- REGIONAL DISTRIBUTION OF PERSISTENTLY BOUND RESERPINE IN RAT BRAIN. 105704 13-03
- BRADYKININ**
- CATATONIA INDUCED IN THE RABBIT BY INTRACEREBRAL INJECTION OF BRADYKININ AND MORPHINE. 120716 13-03
- BRAIN**
- SELF-STARVATION AND REWARDING BRAIN STIMULATION: EFFECTS OF CHLORPROMAZINE AND PENTOBARBITAL. 075046 13-04
- EFFECT OF TETRABENAZINE AND ALPHA-METHYL-M-TYROSINE ON EXPLORATORY ACTIVITY AND BRAIN CATECHOLAMINES IN RATS. 077425 13-04
- EFFECTS OF IMIPRAMINE ON THE NA-ION DEPENDENT EXCHANGE AND RETENTION OF GAMMA-AMINOBUTYRIC ACID BY MOUSE BRAIN SUBCELLULAR PARTICLES. 077725 13-03
- INHIBITION OF ALDEHYDE DEHYDROGENASE BY 2-CHLOROACETOPHENONE AND THE RESULTANT EFFECTS OF THE CATABOLISM OF NOREPINEPHRINE ON BRAIN. 077726 13-03
- THE SUBCELLULAR DISTRIBUTION OF ENDOGENOUS AND EXOGENOUS SEROTONIN IN BRAIN TISSUE. COMPARISON OF SYNAPTOSOMES STORING SEROTONIN, NOREPINEPHRINE, AND GAMMA-AMINOBUTYRIC ACID. 077855 13-03
- THE EFFECT OF DELTA1-TETRAHYDROCANNABINOL ON SEROTONIN METABOLISM IN THE RAT BRAIN. 077902 13-03
- EFFECTS OF DRUGS ON DEEP BRAIN CENTERS. 077922 13-03
- EFFECTS OF LEARNING, AMPHETAMINE AND NICOTINE ON THE LEVEL AND SYNTHESIS OF BRAIN NORADRENALINE IN RATS. 078012 13-03
- BRAIN HISTAMINE: RAPID APPARENT TURNOVER ALTERED BY RESTRAINT AND COLD STRESS. 078017 13-03
- DIFFERENTIAL EFFECTS OF D- AND L-AMPHETAMINE ON BEHAVIOR AND ON CATECHOLAMINE DISPOSITION IN DOPAMINE AND NOREPINEPHRINE CONTAINING NEURONS OF RAT BRAIN. 078134 13-04
- COMPARATIVE STUDIES OF VARIOUS AMPHETAMINE ANALOGUES DEMONSTRATING DIFFERENT INTERACTIONS WITH THE METABOLISM OF THE CATECHOLAMINES IN THE BRAIN. 079069 13-04
- CHOLINE ACETYLTRANSFERASE AND ACETYLCHOLINESTERASE IN CULTURED BRAIN CELLS FROM CHICK EMBRYOS. 079663 13-03
- THE EFFECT OF METHAMPHETAMINE ON THE NOREPINEPHRINE AND 5-HYDROXYTRYPTAMINE CONTENTS IN ELEVEN RAT BRAIN REGIONS. 080632 13-03
- CHANGES IN THE RETENTION AND METABOLISM OF 3H-1-NOREPINEPHRINE IN RAT BRAIN IN VIVO AFTER 6-HYDROXYDOPAMINE PRETREATMENT. 082721 13-03
- NARCOTIC TOLERANCE AND DEPENDENCE: LACK OF RELATIONSHIP WITH SEROTONIN TURNOVER IN THE BRAIN. 082727 13-03
- EFFECTS OF MORPHOLINO, PYRROLIDINO, PIPERIZINO, AND CYCLOCTYL DERIVATIVES OF BETA-ALANINE ON BRAIN AMINES AND AMINO ACIDS. 082729 13-04
- DEPRESSION OF BEHAVIOR AND THE BRAIN CONTENT OF ALPHA-METHYLNOREPINEPHRINE AND ALPHA-METHYLDOPAMINE FOLLOWING THE ADMINISTRATION OF ALPHA-METHYLDOPA. 082757 13-04
- THE EFFECTS OF ALPHA-METHYLTYSOSINE ON SLEEP AND BRAIN NOREPINEPHRINE IN CATS. 082787 13-04
- THE ACTION OF SEDATIVES ON BRAIN STEM OCULOMOTOR SYSTEMS IN MAN. 082861 13-13
- MODIFICATION BY PSYCHOTROPIC DRUGS OF THE CYCLIC ADENOSINE MONOPHOSPHATE RESPONSE TO NOREPINEPHRINE IN RAT BRAIN. 082864 13-03
- A SIMPLE PROCEDURE FOR CALCULATING THE SYNTHESIS RATE OF NOREPINEPHRINE, DOPAMINE AND SEROTONIN IN RAT BRAIN. 082879 13-06
- EFFECT OF INTRAVENTRICULAR INJECTIONS OF BRAIN ISOANTIBODIES ON LEARNING. 085236 13-04
- EFFECTS OF MONOAMINE OXIDASE INHIBITORS AND RESERPINE ON BRAIN AMINES IN ALTITUDE EXPOSED RATS. 085727 13-13
- EFFECT OF PSYCHOTROPIC DRUGS ON TRYPTOPHAN CONCENTRATION IN THE RAT BRAIN. 086107 13-03
- CHANGES IN NOREPINEPHRINE TURNOVER IN RAT BRAIN DURING CHRONIC ADMINISTRATION OF IMIPRAMINE AND PROTRIPTYLINE: A POSSIBLE EXPLANATION FOR THE DELAY IN ONSET OF CLINICAL ANTIDEPRESSANT EFFECTS. 086251 13-03
- THE INCORPORATION OF (3H)URIDINE MONOPHOSPHATE INTO THE RAT BRAIN DURING THE TRAINING PERIOD. A MICROAUTORADIOGRAPHIC STUDY. 086805 13-03
- THE EFFECTS OF PERIPHERALLY ADMINISTERED 6-HYDROXYDOPAMINE ON RAT BRAIN MONOAMINE TURNOVER. 086810 13-03
- DESIPRAMINE (DMI): EFFECT ON THE LEVELS OF ACETYLCHOLINE (ACH) IN WHOLE BRAIN AND IN STRIATUM OF RATS. 086811 13-03
- BRAIN LEVELS OF IMIPRAMINE AND DESIPRAMINE AFTER COMBINED TREATMENT WITH THESE DRUGS IN RATS. 086812 13-03
- INFLUENCE OF METHAMPHETAMINE ON INCORPORATION OF GLUCOSE INTO BRAIN GLYCOGEN. 086819 13-03
- EFFECT OF TRIPERIDOL ON PROCESSES INVOLVING ACETYLCHOLINE IN RAT BRAIN IN VITRO. 086821 13-03
- THE EFFECT OF PSYCHOPHARMACOLOGICAL COMPOUNDS ON BRAIN METABOLISM. 087002 13-17
- STUDIES IN VIVO ON THE RELATIONSHIP BETWEEN BRAIN TRYPTOPHAN, BRAIN 5-HT SYNTHESIS AND HYPERACTIVITY IN RATS TREATED WITH A MONOAMINE OXIDASE INHIBITOR AND L-TRYPTOPHAN. 087124 13-03

## Subject Index

- FRACTIONATION OF GOLDFISH BRAIN AMINOACYL TRANSFER RNA AT THE MICROGRAM LEVEL. 087125 13-06
- FLUORESCENCE MICROSCOPIC STUDY ON RAT BRAIN NEURONS AFFECTED BY HARMALINE ADMINISTRATION. 087212 13-03
- A SIMPLE METHOD FOR MEASURING THE GENERAL ACTIVITY OF RATS IN BRAIN STIMULATION AND OTHER STUDIES. 087289 13-06
- EFFECT OF ACUTE AND CHRONIC ADMINISTRATION OF ETHANOL ON THE 5-HYDROXYTRYPTAMINE TURNOVER AND TRYPTOPHAN HYDROXYLASE ACTIVITY OF THE MOUSE BRAIN. 088284 13-03
- EFFECTS OF ACUTE AND CHRONIC AMPHETAMINE INTOXICATION ON BRAIN CATECHOLAMINES IN THE GUINEA-PIG. 088539 13-03
- EFFECTS OF ACUTE AND CHRONIC ETHANOL ADMINISTRATION ON RIBOSOMAL PROTEIN SYNTHESIS IN MOUSE BRAIN AND LIVER. 088558 13-03
- THE INFLUENCE OF HYPOTHERMIA ON CHLORPROMAZINE INDUCED METABOLIC CHANGES IN MOUSE HEART AND BRAIN. 088641 13-03
- PHENOTHIAZINE DERIVATIVES AND BRAIN ZINC. 088646 13-03
- THE EFFECT OF 5-HYDROXYTRYPTOPHAN AND RESERPINE ADMINISTRATION ON THE LEVEL OF SODIUM, POTASSIUM, CALCIUM, MAGNESIUM AND CHLORIDE IN FIVE DISCRETE AREAS OF THE RABBIT BRAIN. 088665 13-03
- DEPLETION OF BRAIN NORADRENALINE AND DOPAMINE BY 6-HYDROXYDOPAMINE. 088706 13-03
- PHYSICAL DEPENDENCE ON MORPHINE FAILS TO INCREASE SEROTONIN TURNOVER RATE IN RAT BRAIN. 088994 13-03
- SEX DIFFERENCES IN BRAIN DEOXYRIBONUCLEIC ACID AND CHOLINESTERASE ACTIVITY IN RATS. 089332 13-04
- ACTIVATION OF BRAIN SEROTONIN METABOLISM BY HEAT: ROLE OF MIDBRAIN RAPHE NEURONS. 092374 13-03
- THE EFFECTS OF MORPHINE, PENTOBARBITAL AND CHLORPROMAZINE ON BIOELECTRICAL POTENTIALS EVOKED IN THE BRAIN STEM OF THE CAT BY ELECTRICAL STIMULATION OF THE GINGIVA AND TOOTH PULP. 094254 13-05
- CHOLINERGIC INFLUENCED NARCOSIS AND BRAIN ACETYLCHOLINE CONTENT OF MOUSE. 094258 13-03
- THE INFLUENCE OF BARBITURATE ANESTHESIA UPON THE ENERGY STATE AND UPON ACID BASE PARAMETERS OF THE BRAIN IN ARTERIAL HYPOTENSION AND IN ASPHYXIA. 095999 13-03
- EFFECT OF LITHIUM ADMINISTRATION ON RNA METABOLISM IN RAT BRAIN. 096013 13-03
- MODIFICATION BY TWO BETA-ADRENERGIC BLOCKING DRUGS OF THE EFFECTS OF METHAMPHETAMINE ON BEHAVIOR AND BRAIN METABOLISM OF MICE. 098207 13-04
- PLASMA CORTICOSTERONE CHANGES FOLLOWING ALTERATIONS IN BRAIN NOREPINEPHRINE AND SEROTONIN. 098290 13-03
- THE EFFECT OF HASHISH EXTRACT ON THE NOREPINEPHRINE IN RABBIT BRAIN. 098557 13-03
- ON THE EFFECT OF TEBONIN IN POST-TRAUMATIC BRAIN INJURIES. 098562 13-11
- IDENTIFICATION OF BUFOTENIN IN TOAD BRAIN BY CHROMATOGRAPHY AND MASS SPECTROMETRY OF ITS DANS DERIVATIVE. 098685 13-03
- EFFECT OF L-DOPA TREATMENT ON BRAIN SEROTONIN METABOLISM IN DEPRESSED PATIENTS. 098686 13-13
- H3-LYSERGIC ACID DIETHYLAMIDE: CELLULAR AUTORADIOGRAPHIC LOCALIZATION IN RAT BRAIN. 098956 13-03
- BRAIN CATECHOLAMINES AND HUMAN SLEEP. 099063 13-14
- THE EFFECTS OF EXCITATORY AND INHIBITORY AMINO ACIDS ON THE METABOLISM OF ENDOGENOUS BRAIN AMINO ACIDS IN THE NEMBATIZED MOUSE. 099266 13-03
- THE EFFECT OF YOHIMBINE ON BRAIN SEROTONIN METABOLISM, MOTOR BEHAVIOR AND BODY TEMPERATURE OF THE RAT. 099648 13-03

## Psychopharmacology Abstracts

- ROLE OF BRAIN ACETYLCHOLINE AND DOPAMINE IN ACUTE NEUROTIC EFFECTS OF DDT. 099652 13-05
- EVIDENCE FOR INHIBITION BY BRAIN SEROTONIN OF MOUSE KILLING BEHAVIOR IN RATS. 099794 13-04
- PERSISTENT INCREASE IN BRAIN SEROTONIN TURNOVER AFTER CHRONIC ADMINISTRATION OF LSD IN THE RAT. 099828 13-03
- PLASMA AND BRAIN LITHIUM LEVELS AFTER LITHIUM CARBONATE AND LITHIUM CHLORIDE ADMINISTRATION BY DIFFERENT ROUTES IN RATS. 099852 13-03
- NEUROENDOCRINE CONTROL OF THE ADENOSINE 3,5 - MONOPHOSPHATE SYSTEM OF BRAIN AND PINEAL GLAND. (UNPUBLISHED PAPER). 099967 13-03
- EFFECT OF SODIUM NITRITE ON MONOAMINE OXIDASE ACTIVITY IN RAT LIVER AND BRAIN. 100100 13-03
- NOREPINEPHRINE STIMULATED INCREASE OF CYCLIC AMP LEVELS IN DEVELOPING MOUSE BRAIN CELL CULTURES. 100103 13-03
- THE INFLUENCE OF TRAINING AND AVOIDANCE PERFORMANCE ON DISULFIRAM INDUCED CHANGES IN BRAIN CATECHOLAMINES. 100216 13-03
- THE EFFECT OF SOME BETA-ADRENERGIC BLOCKING AND OTHER DRUGS ON BRAIN LACTATE LEVELS FOLLOWING ELECTROSHOCK. 100218 13-03
- THE EFFECTS OF CHRONIC ADMINISTRATION OF SOME CHOLINERGIC AND ADRENERGIC DRUGS ON THE ACTIVITY OF CHOLINE ACETYLTRANSFERASE IN THE OPTIC LOBES OF THE CHICK BRAIN. 100219 13-03
- THE USE OF CYCLODELATE IN CHRONIC BRAIN SYNDROME WITH ARTERIOSCLEROSIS. 100536 13-11
- CHANGES IN FREE FATTY ACIDS OF BRAIN BY DRUG-INDUCED CONVULSIONS, ELECTROSHOCK AND ANESTHESIA. 100668 13-03
- UNSUCCESSFUL ATTEMPTS TO TRANSFER MORPHINE TOLERANCE AND PASSIVE AVOIDANCE BY BRAIN EXTRACTS. 100938 13-04
- EFFECT OF THIAZOL-4-YLMETHOXYAMINE, A NEW INHIBITOR OF HISTAMINE BIOSYNTHESIS ON BRAIN HISTAMINE, MONOAMINE LEVELS AND BEHAVIOR. 101541 13-03
- EFFECT OF PARA-METHOXYAMPHETAMINE ON CATECHOLAMINE METABOLISM IN THE MOUSE BRAIN. 101543 13-03
- ON THE EFFECT OF MELATONIN UPON HUMAN BRAIN: ITS POSSIBLE THERAPEUTIC IMPLICATIONS. 101657 13-14
- SODIUM AND POTASSIUM ACTIVATED ATPASE OF BEEF BRAIN - EFFECTS OF SOME TRANQUILIZERS. 101705 13-03
- EFFECTS OF LONG-TERM RESERPINE TREATMENT ON BRAIN TYROSINE HYDROXYLASE AND BEHAVIORAL ACTIVITY. 101718 13-04
- DEVELOPMENT OF THE UPTAKE AND STORAGE OF L-3H-NOREPINEPHRINE IN THE RAT BRAIN. 101846 13-03
- THE EFFECTS OF PSYCHOACTIVE AGENTS ON CALCIUM UPTAKE BY PREPARATIONS OF RAT BRAIN MITOCHONDRIA. 101847 13-03
- METHYLPHENIDATE AND MINIMAL BRAIN DYSFUNCTION. 102141 13-17
- OXIDATIVE METABOLISM OF MESCALINE IN THE CENTRAL NERVOUS SYSTEM - II. OXIDATIVE DEMINATION OF MESCALINE AND 2,3,4 TRIMETHOXY-BETA-PHENYLETHYLAMINE BY DIFFERENT MOUSE BRAIN AREA IN VITRO. 102734 13-03
- EFFECTS OF BENZODIAZEPINES ON SPONTANEOUS ELECTRICAL ACTIVITY OF SUBCORTICAL AREAS IN BRAIN OF CAT. 103649 13-03
- WHOLE-BODY AND REGIONAL BRAIN DISTRIBUTION OF DIAZEPAM IN NEWBORN RHESUS MONKEYS. 103651 13-03
- AMOUNTS AND TURNOVER RATES OF BRAIN PROTEINS IN MORPHINE TOLERANT MICE. 104009 13-03
- STIMULATION OF BRAIN DOPAMINE SYNTHESIS BY GAMMA-HYDROXYBUTYRATE. 104010 13-03
- THE EFFECTS OF DELTA9-TETRAHYDROCANNABINOL ON THE METABOLISM OF NOREPINEPHRINE IN RAT BRAIN. 104139 13-03
- EFFECT OF ELECTROSHOCK ON 5-HT METABOLISM IN RAT BRAIN. 104140 13-03

- REGIONAL AND SUBCELLULAR CHANGES IN THE CONCENTRATION OF 5-HYDROXYTRYPTAMINE AND 5-HYDROXYINDOLEACETIC ACID IN THE RAT BRAIN CAUSED BY HYDROCORTISONE, DL-ALPHA-METHYLTRYPTOPHAN, L-KYNURENE AND IMMOBILIZATION. 104538 13-03
- EFFECT OF 6-HYDROXYDOPAMINE ON ELECTRICAL SELF-STIMULATION OF THE BRAIN. 104539 13-04
- THE ROLE OF BRAIN NOREPINEPHRINE IN THE ANOREXIC EFFECTS OF DEXTROAMPHETAMINE AND MONOAMINE OXIDASE INHIBITORS IN THE RAT. 104574 13-03
- THE EFFECT OF L-DOPA ON BRAIN CATECHOLAMINES AND MOTILITY IN RATS. 104575 13-03
- LEARNED ESCAPE BEHAVIOR INDUCED BY BRAIN ELECTRICAL STIMULATION AND VARIOUS NEUROACTIVE AGENTS. 104786 13-04
- THE ACUTE EFFECTS OF ESTROGEN AND PROGESTERONE ON THE MONOAMINE LEVELS OF THE BRAIN OF OVARECTOMIZED RATS. 104790 13-03
- EFFECT OF IN VIVO ETHANOL ADMINISTRATION ON ADENOSINETRIPHOSPHATASE ACTIVITY OF SUBCELLULAR FRACTIONS OF MOUSE BRAIN AND LIVER. 105518 13-03
- REGIONAL DISTRIBUTION OF PERSISTENTLY BOUND RESERPINE IN RAT BRAIN. 105704 13-03
- EFFECTS OF LITHIUM ON BRAIN ADENYL CYCLASE ACTIVITY. 105707 13-03
- INFLUENCE OF A CHRONIC TREATMENT ON THE DISTRIBUTION OF AMITRIPTYLINE AND METABOLITES IN RABBIT BRAIN. 105708 13-03
- EFFECT OF PYRAZOLE IN VIVO ON ALDEHYDE METABOLISM IN RAT LIVER AND BRAIN. 105709 13-03
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN. IV. ANTIANDRENERGIC ACTION AND INFLUENCE ON BRAIN MONOAMINES. 105841 13-03
- EEG CHANGES AFTER PSILOCYBIN IN ORGANIC BRAIN LESIONS. 106000 13-13
- PSYCHOPHARMACOLOGICAL AGENTS AND THE ADENOSINE 3,5 MONOPHOSPHATE SYSTEM OF RAT BRAIN. (UNPUBLISHED PAPER). 106060 13-03
- BRAIN EXCITABILITY AND BEHAVIORAL REACTIVITY IN MONKEYS UNDER MEPROBAMATE. 106145 13-04
- AUTORADIOGRAPHIC STUDY OF THE FATE OF DIAZEPAM-C14 IN THE MONKEY BRAIN. 106147 13-03
- EFFECT OF NEUROLEPTICS ON BRAIN AMPHETAMINE CONCENTRATIONS IN THE RAT. 106428 13-03
- BRAIN NOREPINEPHRINE AND SEROTONIN LEVELS FOLLOWING REM SLEEP DEPRIVATION IN THE RAT. 106492 13-03
- EFFECTS OF INTRAPERITONEAL INJECTIONS OF LITHIUM CHLORIDE ON THE ENTRY OF RADIOACTIVE CARBON ATOMS OF GLUCOSE AND AMINO ACIDS INTO MOUSE BRAIN AND OTHER TISSUES. 106524 13-03
- A COMPARATIVE STUDY ON THE METABOLISM OF 3,4 DIMETHOXYPHENYLETHYLAMINE-C14 AND MESCALINE-C14 BY RABBIT, MOUSE AND RAT BRAIN HOMOGENATES. 106527 13-03
- THE EFFECT OF PETHIDINE ON THE 5-HYDROXYTRYPTAMINE AND 5-HYDROXYINDOLEACETIC ACID CONTENT OF THE MOUSE BRAIN. 106847 13-03
- ALPHA-METHYLTRYPTOPHAN INCREASES 5-HYDROXYTRYPTAMINE-LIKE MATERIAL IN RAT BRAIN. 106909 13-03
- ELEVATION OF BRAIN GABA BY PARGYLINE: A POSSIBLE MECHANISM FOR PROTECTION AGAINST OXYGEN TOXICITY. 106920 13-03
- THE UPTAKE AND SUBCELLULAR DISTRIBUTION OF AROMATIC AMINES IN THE BRAIN OF THE RAT. 106922 13-03
- THE RELEASE OF 3H-DOPAMINE FROM CAT BRAIN FOLLOWING ELECTRICAL STIMULATION OF THE SUBSTANTIA-NIGRA AND CAUDATE NUCLEUS. 107046 13-03
- EFFECTS OF PHENOTHIAZINE TRANQUILIZERS ON THE CYCLIC 3,5 ADENOSINE MONOPHOSPHATE SYSTEM OF RAT BRAIN. 107123 13-03
- ANTICONVULSANT ACTIVITY AND BRAIN LEVELS OF DIAZEPAM AND ITS METABOLITES IN MICE. 107158 13-03
- THE EFFECT OF CAFFEINE AND THEOPHYLLINE ON THE DISPOSITION OF BRAIN SEROTONIN IN THE RAT. 107161 13-03
- CATABOLISM OF 3H-HISTAMINE IN THE RAT BRAIN AFTER INTRACISTERNAL ADMINISTRATION. 107194 13-03
- INFLUENCE OF PSYCHOTOMIMETIC SUBSTANCES ON THE ENERGETIC METABOLISM OF BRAIN MITOCHONDRIA. 107725 13-03
- EFFECTS OF MICROIONTOPHORETIC APPLICATION OF IMIPRAMINE ON SINGLE NEURONES IN THE BRAIN STEM. 107962 13-03
- BEHAVIOR AND BRAIN CONTENTS OF CATECHOLAMINES IN MICE DURING CHRONIC ADMINISTRATION OF METHYLDOPA. 107964 13-04
- EFFECT OF TRANQUILIZERS AND ANTIDEPRESSANTS ON GLYCOGEN PHOSPHORYLASE OF RAT BRAIN. 108283 13-03
- EFFECTS OF CHLORDIAZEPOXIDE AND DIAZEPAM ON RESPIRATION AND OXIDATIVE PHOSPHORYLATION IN RAT BRAIN MITOCHONDRIA. 108284 13-03
- EFFECT OF PHENELZINE ON THE METABOLISM AND MEMBRANAL TRANSPORT OF GLUCOSE IN BRAIN. 108287 13-03
- COMPOUNDS ANTAGONISTIC TO NOREPINEPHRINE RETENTION BY RAT BRAIN HOMOGENATES. 108289 13-03
- CHLORPROMAZINE ADSORPTION TO BRAIN REGIONS. 108396 13-03
- EFFECT OF 6-HYDROXYDOPAMINE ON THE INCORPORATION OF 14C-LEUCINE INTO RAT BRAIN PROTEIN. 108615 13-03
- EFFECT OF P-NITROMETHYLAMPHETAMINE ON BIOGENIC AMINES AND THEIR AMINO ACID PRECURSORS IN RAT BRAIN. 108794 13-03
- RELATIONSHIP BETWEEN BRAIN MONOAMINES AND SEIZURE SUSCEPTIBILITY. (PH.D. DISSERTATION). 109145 13-13
- ACTIONS OF DEXAMPHETAMINE AND AMPHETAMINE-LIKE AMINES IN CHICKENS WITH BRAIN TRANSECTIONS. 109194 13-03
- ROLE OF BRAIN MONOAMINES IN THE FATAL HYPERTHERMIA INDUCED BY PETHIDINE OR IMIPRAMINE IN RABBITS PRETREATED WITH PARGYLINE. 109197 13-03
- MESCALINE INDUCED CHANGES OF BRAIN CORTEX RIBOSOMES. EFFECT OF MESCALINE ON AMINO ACID INCORPORATING ABILITY OF RIBOSOMES. 109418 13-03
- STRUCTURE OF THE NEURON AND INTERNEURON LINKS IN THE BRAIN OF RATS UNDER THE EFFECT OF CAFFEINE AND PHENAMINE. 111137 13-03
- FACTORS THAT AFFECT THE BINDING AND UPTAKE OF GABA BY BRAIN TISSUE. 111216 13-03
- COMPARATIVE STUDY OF THE EFFECT OF TRICYCLIC ANTIDEPRESSANTS ON THE SELF-STIMULATION REACTION OF THE BRAIN IN RATS. 111292 13-03
- EFFECT OF TRIPHASINE AND CHLORPROMAZINE ON NORADRENALINE AND ATP CONCENTRATION IN THE GRANULATION AND SUPERNATANT FRACTIONS OF THE BRAIN STEM. 111293 13-03
- EFFECT OF LITHIUM ON SEROTONIN LEVEL IN THE BRAIN OF WHITE MICE. 111294 13-03
- ON THE SELECTIVE EFFECT OF THE NEW ANTIDEPRESSANT FLUORACIZINE ON THE ACTIVITY OF PYRIDINE DEHYDROGENASES IN THE BRAIN OF RATS. 111703 13-03
- EFFECT OF MELIPRAMINE ON SEROTONIN METABOLISM IN THE RAT BRAIN. 111765 13-03
- EFFECT OF PHENAMINE INDUCED INSOMNIA AND OF SUBSEQUENT SLEEP ON PROTEIN CONTENT IN THE NEURONS AND GLIAL CELLS OF THE SUPRAOPTIC AND RED NUCLEI OF THE BRAIN. 111831 13-03
- DOPAMINE: RELEASE FROM THE BRAIN IN VIVO BY AMANTADINE. 112064 13-13
- THE EFFECT OF BETA-PHENETHYLAMINE ON NORADRENALINE CONCENTRATIONS IN GUINEA-PIG BRAIN. 112287 13-03
- CHANGES IN THE ACTIVITY OF OXIDATIVE ENZYMES IN THE BRAIN OF RATS UNDER THE EFFECT OF TRIFLUOPERAZINE (STELAZINE). 113522 13-03
- RELATIONSHIP BETWEEN DEPLETION OF NOREPINEPHRINE IN THE BRAIN AND THE HYPOTHERMIC EFFECT OF APOMORPHINE IN MICE. 113523 13-03

# Subject Index

# Psychopharmacology Abstracts

VOLU

- SOME EFFECTS OF 4-HYDROXYBUTYRIC ACID ON BRAIN CARBOHYDRATE METABOLISM. 115043 13-03
- FORMATION OF (3H)NORADRENALINE AND (3H)DOPAMINE IN THE BRAIN AND HEART OF THE RAT FETUS. 115310 13-03
- A RAPID, SIMPLIFIED PROCEDURE FOR SIMULTANEOUS ASSAY OF NOREPINEPHRINE, DOPAMINE, AND 5-HYDROXYTRYPTAMINE FROM DISCRETE BRAIN AREAS. 117510 13-06
- ACTION OF IMIPRAMINE ON 5-HYDROXYTRYPTAMINERGIC TRANSMISSION AND ON 5-HYDROXYTRYPTAMINE UPTAKE IN THE SNAIL (HELI-X-POMATIA) BRAIN. 120411 13-03
- SUBCELLULAR DISTRIBUTION OF 8-14C-MESCALINE IN THE MOUSE BRAIN AND LIVER. 120471 13-03
- REDUCTION OF HISTAMINE IN MOUSE BRAIN BY NL (DL-SERYL)-N2-(2,3,4 TRIHYDROXYBENZYL) HYDRAZINE AND RESERPINE. 122546 13-03
- THE EFFECT OF ETHANOL ON PHENOBARBITONE AND PENTOBARBITONE ABSORPTION INTO RAT BLOOD AND BRAIN. 122551 13-03
- ON THE DECREASE IN CONCENTRATION OF 5-HIAA IN RAT BRAIN BY IMIPRAMINE AND RELATED SUBSTANCES. 123264 13-03
- EFFECT OF MORPHINE ON PROTEIN SYNTHESIS IN SYNAPTOSOMES AND MITOCHONDRIA OF MOUSE BRAIN. 123273 13-03
- INVESTIGATIONS ON THE ELECTROLYTE CONTENTS OF ANATOMICALLY DEFINED PARTS OF THE BRAIN IN NORMAL AND LITHIUM - TREATED RATS. 123279 13-03
- IN VIVO INCORPORATION OF LABELLED CHOLINE AND ACETYLCHOLINE IN THE VESICLES OF BRAIN NERVE ENDINGS. 123283 13-03
- DISTRIBUTION OF ELECTROLYTES WITHIN THE BRAIN OF LITHIUM TREATED RATS. 123289 13-03
- THE INFLUENCE OF PROLONGED AMPHETAMINE TREATMENT AND AMPHETAMINE WITHDRAWAL ON BRAIN BIOGENIC AMINE CONTENT AND BEHAVIOUR IN THE RAT. 125163 13-03
- THE EFFECT OF STIMULANT DRUGS ON HUMAN FIGURE DRAWINGS IN CHILDREN WITH MINIMAL BRAIN DYSFUNCTION. 125254 13-14
- AMPHETAMINE TETRAZOLIUM REDUCTASE ACTIVITY IN BRAIN. 125411 13-03
- INFLUENCE OF AMPHETAMINE ON THE PATHOLOGICAL STATE OF THE RAT BRAIN. 125422 13-05
- ACUTE ORGANIC BRAIN SYNDROME WITH PROPRANOLOL. 125503 13-15
- MECHANISM OF ACTION OF PSYCHOTOMIMETIC DRUGS IN THE BRAIN STEM. 125593 13-13
- BRAINS**
- CHRONIC DOPA TREATMENT: EFFECT ON THE CONCENTRATION OF NOREPINEPHRINE IN THE HEARTS AND BRAINS OF RATS. 083161 13-03
- THE FATE OF 2,5 DIMETHOXY-4-METHYLAMPHETAMINE (STP,DOM) IN MONKEY AND RAT BRAINS. 086148 13-03
- EFFECTS OF EXCESS PHENYLALANINE ON IN VITRO AND IN VIVO RNA AND PROTEIN SYNTHESIS AND POLYRIBOSOME LEVELS IN BRAINS OF MICE. 086806 13-03
- EFFECT OF ETHANOL ON ENTRY OF SOME SUBSTANCES INTO THE BRAINS OF RATS. 100508 13-03
- COMPARISON OF DOSE DEPENDENT DEPLETION OF SOME MONOAMINES IN RAT BRAINS BY MEANS OF RESERPINE AND OXYPERTINE. 126103 13-03
- BREAK**
- AND THE PRISONERS WILL BECOME PRIESTS: THE CONVICTS BREAK OUT. 073413 13-12
- BREAKDOWN**
- IMIPRAMINE TISSUE REPARTITION BREAKDOWN IN MAN AS RELATED TO SIX CASES OF FATAL INTOXICATION. 100406 13-15
- BREAST**
- DICHLORALPHENAZONE AND BREAST MILK. 107872 13-17
- BRED**
- EFFECTS OF RIBONUCLEASE ON ACQUISITION AND RETENTION OF ESCAPE AVOIDANCE BEHAVIOR IN A SELECTIVELY BRED RAT STRAIN. 078453 13-04
- BRIGHTNESS**
- EFFECTS OF POST-TRIAL INJECTIONS OF SCOPOLAMINE AND ESERINE ON ACQUISITION OF A SIMULTANEOUS BRIGHTNESS DISCRIMINATION. 111052 13-04
- BROMAZEPAM**
- EFFECT OF 7-BROMO-5-(2-PYRIDYL)-3H-1,4 BENZODIAZEPINONE, BROMAZEPAM (RO-5-3350), A NEW MINOR TRANQUILIZER, ON PSYCHONEUROSIS WITH SPECIAL REFERENCE TO THE OBSESSIVE-COMPULSIVE SYMPTOMS. 118969 13-10
- BROMISM**
- BROMISM. 100496 13-15
- BRONCHI**
- SOME BRONCHOCONSTRICTING AND BRONCHODILATING RESPONSES OF HUMAN ISOLATED BRONCHI: EVIDENCE FOR THE EXISTENCE OF ALPHA-ADRENORECEPTORS. 106429 13-13
- BRONCHOCONSTRICTING**
- SOME BRONCHOCONSTRICTING AND BRONCHODILATING RESPONSES OF HUMAN ISOLATED BRONCHI: EVIDENCE FOR THE EXISTENCE OF ALPHA-ADRENORECEPTORS. 106429 13-13
- BRONCHODILATING**
- SOME BRONCHOCONSTRICTING AND BRONCHODILATING RESPONSES OF HUMAN ISOLATED BRONCHI: EVIDENCE FOR THE EXISTENCE OF ALPHA-ADRENORECEPTORS. 106429 13-13
- BROTHERS**
- EXTRAPYRAMIDAL AFFLICTION IN TWO YOUNG BROTHERS; REMARKABLE EFFECTS OF TREATMENT WITH L-DOPA. 101377 13-11
- BUCCAL**
- THE BUCCAL ABSORPTION OF SOME BARBITURATES. 087141 13-06
- BUFOTENIN**
- IDENTIFICATION OF BUFOTENIN IN TOAD BRAIN BY CHROMATOGRAPHY AND MASS SPECTROMETRY OF ITS DARK DERIVATIVE. 098685 13-03
- POTENTIATION IN RATS OF BUFOTENIN INDUCED BEHAVIORAL CHANGES BY CHLORPROMAZINE. 101570 13-04
- BUFOTENINE**
- THE EFFECT OF MESCALINE AND BUFOTENINE ON SOME CENTRAL ACTIONS OF NORADRENALINE. 106151 13-03
- EFFECTS OF BUFOTENINE AND P-CHLOROPHENYLALANINE ON STRESS INDUCED BEHAVIOR. 106491 13-03
- BULBOCAPNINE**
- STUDIES ON THE CENTRAL EFFECTS OF BULBOCAPNINE. 111143 13-03
- BULLOUS**
- BULLOUS LESIONS IN NITRAZEPAM OVERDOSAGE. 087150 13-15
- BUNDLE**
- LESIONS IN THE MEDIAL FOREBRAIN BUNDLE: RELATIONSHIP BETWEEN PAIN SENSITIVITY AND TELECEPHALIC CONTENT OF SEROTONIN. 086171 13-03
- BUTYROPHENONES**
- INTRASTRIATAL INJECTION OF QUATERNARY BUTYROPHENONES AND OXYPERTINE: NEUROLEPTIC EFFECT IN RATS. 104374 13-04
- BUTYROPHENONES IN PSYCHIATRY. 107547 13-07
- CACTACEAE**
- CACTACEAE ALKALOIDS: X. ALKALOIDS OF TRICHOCEREUS SPECIES AND SOME OTHER CACTI. 100170 13-01
- CACTI**
- CACTACEAE ALKALOIDS: X. ALKALOIDS OF TRICHOCEREUS SPECIES AND SOME OTHER CACTI. 100170 13-01
- CACTUS**
- CACTUS ALKALOIDS X. ISOLATION OF HORDENINE AND N-METHYLTYRAMINE FROM ARIOCARPUS-KOTSCHOUBEYANUS. 079413 13-01
- CAFFEINE**
- EFFECTS OF NICOTINE, NICOTINE MONOMETHIODIDE, LOBELINE, CHLORDIAZEPOXIDE, MEPROBAMATE AND CAFFEINE ON A DISCRIMINATION TASK IN LABORATORY RATS. 104433 13-04
- STUDIES OF THE COMBINED EFFECTS OF CAFFEINE AND ETHANOL. (PH.D. DISSERTATION). 104741 13-17
- ACUTE EFFECT OF CHLORPROTHIXENE (5MG), CAFFEINE (200MG) AND THE COMBINATION OF BOTH DRUGS ON VERBAL ASSOCIATIONS. 105997 13-14

- THE EFFECT OF CHLORPROTHIXENE AND CAFFEINE ON THE CONDITIONED ALIMENTARY MOTOR REFLEXES IN CATS. 106002 13-04
- THE EFFECT OF CAFFEINE AND THEOPHYLLINE ON THE DISPOSITION OF BRAIN SEROTONIN IN THE RAT. 107161 13-03
- STRUCTURE OF THE NEURON AND INTERNEURON LINKS IN THE BRAIN OF RATS UNDER THE EFFECT OF CAFFEINE AND PHENAMINE. 111137 13-03
- CALCIUM**
- THE EFFECT OF 5-HYDROXYTRYPTOPHAN AND RESERPINE ADMINISTRATION ON THE LEVEL OF SODIUM, POTASSIUM, CALCIUM, MAGNESIUM AND CHLORIDE IN FIVE DISCRETE AREAS OF THE RABBIT BRAIN. 088665 13-03
- CHANGES IN CALCIUM AND MAGNESIUM METABOLISM IN DEPRESSIONS AND DELIRIUM-TREMENS. 089200 13-13
- THE EFFECTS OF PSYCHOACTIVE AGENTS ON CALCIUM UPTAKE BY PREPARATIONS OF RAT BRAIN MITOCHONDRIA. 101847 13-03
- CITRATED CALCIUM CARBIMIDE/ALCOHOL REACTION - ITS SEVERITY AND EFFECTIVENESS AS A DETERRENT. 103099 13-11
- DECREASED CALCIUM UPTAKE BY RAT FUNDAL STRIPS AFTER PRETREATMENT WITH NEURAMINIDASE OR LSD IN VITRO. 105710 13-03
- PARTIAL ANTAGONISM BY EXOGENOUS CALCIUM OF THE DEPRESSANT EFFECT OF RESERPINE IN RAT SHUTTLE-BOX BEHAVIOR. 117580 13-03
- REVERSAL OF CHLORPROMAZINE INDUCED HYPOTENSION BY CALCIUM CHLORIDE IN DOGS. 119691 13-04
- ALTERATIONS IN TREMOR REGULATION AFTER INTRACAUDATE INJECTIONS OF CALCIUM IONS OR DISODIUM EDETATE. 122541 13-03
- EFFECT OF CALCIUM ON RESERPINE INDUCED CATALEPSY. 122549 13-03
- CALCULATING**
- A SIMPLE PROCEDURE FOR CALCULATING THE SYNTHESIS RATE OF NOREPINEPHRINE, DOPAMINE AND SEROTONIN IN RAT BRAIN. 082879 13-06
- CALDWELLS**
- CRITICAL REVIEW OF ANNE E. CALDWELLS ORIGINS OF PSYCHOPHARMACOLOGY FROM CPZ TO LSD. 105554 13-17
- CALM**
- PILLS FOR LEARNING: DISPUTE FAILS TO HALT USE OF DRUGS TO CALM HYPERACTIVE CHILDREN. 078100 13-17
- CALMED**
- HYPERKINETIC DOGS CALMED BY DEXAMPHETAMINE. 111215 13-14
- CANADIAN**
- CANADIAN NIACIN STUDY - II. 109398 13-08
- CANCER**
- LSD LINK WITH TESTICULAR CANCER? 101653 13-15
- CANINE**
- THE EFFECT OF INTRAVENOUS ETHYL-ALCOHOL ON THE CORONARY CIRCULATION AND MYOCARDIAL CONTRACTILITY OF THE HUMAN AND CANINE HEART. 087032 13-13
- CHLORPROMAZINE INDUCED HISTAMINE RELEASE AND LIPOLYSIS IN CANINE ADIPOSE TISSUE IN SITU. 099647 13-03
- CANNABIDIOL**
- SOME ACTIONS OF DELTA1-TETRAHYDROCANNABINOL AND CANNABIDIOL AT CHOLINERGIC JUNCTIONS. 087358 13-03
- CANNABINOID**
- CANNABINOID CONSTITUENTS OF MALE AND FEMALE CANNABIS-SATIVA. 098556 13-01
- CANNABINOIDS**
- ACUTE ORAL TOXICITY OF CANNABINOIDS IN VARIOUS SPECIES (UNPUBLISHED PAPER). 093082 13-05
- FLUORESCENT LABELED CANNABINOIDS. 105117 13-16
- METABOLIC FATE OF CANNABINOIDS IN RABBIT AND RAT. 123262 13-03
- CANNABINOL**
- EFFECTS OF 1-DELTA-9 AND 1-DELTAB-TRANS-TETRAHYDROCANNABINOL AND CANNABINOL ON SCHEDULE CONTROLLED BEHAVIOR OF PIGEONS AND RATS. 094255 13-04
- CANNABIS**
- CANNABIS INDUCED VOCALIZATION IN THE RAT. 086155 13-04
- THE TETRAHYDROCANNABINOL CONTENT OF CANNABIS LEAF. 087117 13-01
- CANNABIS AS A TREATMENT FOR ALCOHOLISM. 089184 13-12
- NEW RESEARCH ON CANNABIS. 093579 13-17
- CANNABIS. 093696 13-04
- CANNABIS ROOTS. 099681 13-13
- CANNABIS. 102611 13-13
- CANNABIS: CHEMISTRY AND BIOLOGY. 104764 13-13
- A NEW GAS CHROMATOGRAPHIC METHOD FOR THE DEMONSTRATION OF CANNABIS INTAKE BY ANALYSIS OF BIOLOGICAL FLUIDS. 123265 13-06
- THE INFLUENCE OF SUBCHRONIC TETRAHYDROCANNABINOL AND CANNABIS TREATMENT ON FOOD AND WATER INTAKE, BODY WEIGHT AND BODY TEMPERATURE OF RATS. 123267 13-03
- THE INFLUENCE OF SOLVENT AGENTS ON THE EFFECTS OF CANNABIS. 123291 13-03
- CANNABIS-SATIVA**
- CANNABINOID CONSTITUENTS OF MALE AND FEMALE CANNABIS-SATIVA. 098556 13-01
- EXTINCTION OF OPERANT RESPONSES BY RATS UNDER THE EFFECTS OF CANNABIS-SATIVA EXTRACT. 110036 13-04
- EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CANNABIS-SATIVA AND (-)-DELTA9-TRANS-TETRAHYDROCANNABINOL ON THE BEHAVIOR OF RATS IN AN OPEN-FIELD ARENA. 125251 13-04
- CAPACITY**
- DIFFERENTIAL EFFECT OF ATROPINE AND HYOSCINE ON HUMAN LEARNING CAPACITY. 120416 13-14
- CAPTURE**
- THE INFLUENCE OF AMIZYL AND DIPHACYL ON PROCESSES OF CAPTURE AND DISCHARGE OF NOREPINEPHRINE. 107723 13-03
- CAPURIDE**
- QUANTITATIVE EEG ANALYSIS OF SINGLE-DOSE EFFECT RELATIONSHIPS IN NORMAL VOLUNTEERS OF PACINOX (CAPURIDE), A NEW ANTIANXIETY DRUG. 087487 13-10
- CARBACHOL**
- EFFECT OF ATROPINE ON DRINKING INDUCED BY CARBACHOL, ANGIOTENSIN AND ISOPROTERENOL. 101966 13-04
- CARBAMATES**
- THE PHARMACOLOGY OF PROPANEDIOL CARBAMATES. 108521 13-13
- CARBAMAZEPINE**
- CARBAMAZEPINE PLASMA AND TISSUE LEVELS IN THE RAT. 108395 13-03
- ELECTROCLINICAL STUDY OF A CASE OF NEUROMYOTONIA WITH MYOKYMIA, REACTING FAVORABLY TO CARBAMAZEPINE TREATMENT. 121796 13-13
- RESULTS OF TREATMENT OF DYSTHYMIC ATTACKS WITH CARBAMAZEPINE. 123891 13-07
- CARBIDINE**
- PHARMACOLOGICAL PROPERTIES OF CARBIDINE. 113519 13-04
- CARBIMIDE**
- CITRATED CALCIUM CARBIMIDE/ALCOHOL REACTION - ITS SEVERITY AND EFFECTIVENESS AS A DETERRENT. 103099 13-11
- CARBOHYDRATE**
- SOME EFFECTS OF 4-HYDROXYBUTYRIC ACID ON BRAIN CARBOHYDRATE METABOLISM. 115043 13-03
- CARBON**
- LOW LEVEL CARBON MONOXIDE EXPOSURE AND HUMAN PSYCHOMOTOR PERFORMANCE. 078163 13-14
- EFFECTS OF INTRAPERITONEAL INJECTIONS OF LITHIUM CHLORIDE ON THE ENTRY OF RADIOACTIVE CARBON ATOMS OF GLUCOSE AND AMINO ACIDS INTO MOUSE BRAIN AND OTHER TISSUES. 106524 13-03

# Subject Index

# Psychopharmacology Abstracts

VOLU

THE DEVELOPMENT OF SYNTHETIC TECHNIQUES TO INTRODUCE A FUNCTIONALIZED CARBON SUBSTITUENT REGIOSELECTIVELY INTO THE BENZENE RING OF AN INDOLE NUCLEUS.

112783 13-01

## CARBONATE

TOXICITY OF LITHIUM CARBONATE IN ELDERLY PATIENTS.

079779 13-13

LITHIUM CARBONATE TREATMENT IN THE MANIC-DEPRESSIVE AND PREDICTABILITY OF OUTCOME OF TREATMENT.

086166 13-15

PROPHYLACTIC DISPENSATION OF LITHIUM CARBONATE IN AFFECTIVE PSYCHOSES.

087191 13-11

LITHIUM CARBONATE AND ISOCARBOAZID - AN EFFECTIVE DRUG APPROACH IN SEVERE DEPRESSIONS.

088144 13-07

CHROMOSOME EXAMINATIONS IN PATIENTS ON LITHIUM CARBONATE.

090765 13-15

LITHIUM CARBONATE AND ERYTHROCYTE AGGREGATION STATES.

095155 13-09

MECHANISM OF LITHIUM CARBONATE IN MANIC-DEPRESSIVE ILLNESS: A REVIEW.

098288 13-13

PLASMA AND BRAIN LITHIUM LEVELS AFTER LITHIUM CARBONATE AND LITHIUM CHLORIDE ADMINISTRATION BY DIFFERENT ROUTES IN RATS.

099852 13-03

A PHARMACOKINETIC ANALYSIS OF LITHIUM CARBONATE ABSORPTION FROM SEVERAL FORMULATIONS IN MAN.

100258 13-07

ELECTROCARDIOGRAPHIC T-WAVE CHANGES DURING LITHIUM CARBONATE TREATMENT.

100271 13-13

PROPHYLACTIC ADMINISTRATION OF LITHIUM CARBONATE IN AFFECTIVE PSYCHOSES.

101311 13-09

EFFECT OF LITHIUM CARBONATE, PLACEBO, AND THIORIDAZINE ON HYPERACTIVE CHILDREN.

101684 13-11

PATIENT REJECTION OF LITHIUM CARBONATE PROPHYLAXIS.

102105 13-09

LITHIUM CARBONATE INDUCED MYXEDEMA.

102880 13-15

SOME CURRENT THOUGHTS ON LITHIUM CARBONATE IN MANIC-DEPRESSIVE ILLNESS BASED ON A DOUBLE-BLIND COMPARISON WITH CHLORPROMAZINE.

103627 13-09

LITHIUM CARBONATE - IS IT SUCCESSFUL?

103629 13-14

LITHIUM CARBONATE: A SURVEY OF THE HISTORY AND CURRENT STATUS OF LITHIUM IN TREATING MOOD DISORDERS. (UNPUBLISHED PAPER).

106053 13-09

A COMPARISON OF LITHIUM CARBONATE AND CHLORPROMAZINE IN THE TREATMENT OF EXCITED SCHIZO-AFFECTIVES. (UNPUBLISHED PAPER).

106066 13-08

LITHIUM CARBONATE AND EDEMA.

107653 13-15

CASE OF THE CIRCULAR FORM OF CYCLOPHRENIA TREATED WITH LITHIUM CARBONATE FOR A PERIOD OF 4 YEARS.

118218 13-09

## CARBONIC

STUDIES ON THE FUNCTIONAL SIGNIFICANCE OF CARBONIC ANHYDRASE IN CENTRAL NERVOUS SYSTEM.

092158 13-03

## CARDIAC

CARDIAC ARRHYTHMIA IN A CHILD DUE TO CHLORAL HYDRATE INGESTION.

077912 13-15

CARDIAC COMPLICATIONS OF TRICYCLIC ANTIDEPRESSANT THERAPY.

088986 13-15

PHENOTHIAZINE INDUCED CARDIAC ARRHYTHMIA.

108513 13-15

## CARDIOGRAPHY

ATTEMPT TO ADMINISTER VECTOR CARDIOGRAPHY IN SCHIZOPHRENIA IN AN EVALUATION OF THE QRS COMPLEX.

118205 13-08

## CARDIOTOXICITY

CARDIOTOXICITY OF TRICYCLIC ANTIDEPRESSANTS: PHENOTHIAZINE AND IMIPRAMINE DERIVATIVES.

097553 13-15

## CARDIOVASCULAR

CENTRAL NERVOUS SYSTEM AND CARDIOVASCULAR EFFECTS OF LORAZEPAM IN MAN.

077933 13-13

CARDIOVASCULAR EFFECTS OF INTRAVENOUS MORPHINE IN THE ANESTHETIZED RAT.

079063 13-03

DIFFERENCES AMONG AGE AND SEX GROUPS WITH RESPECT TO CARDIOVASCULAR CONDITIONING AND REACTIVITY. (UNPUBLISHED PAPER).

082516 13-13

SOME CARDIOVASCULAR EFFECTS OF MARIJUANA SMOKING IN NORMAL VOLUNTEERS.

100418 13-13

INFLUENCE OF AMINAZINE ON THE ADAPTATION OF THE CARDIOVASCULAR SYSTEM IN EPILEPTIC PATIENTS.

102830 13-17

SODIUM RETENTION AND NORADRENALINE SENSITIVITY OF THE PUPILS AND OF THE CARDIOVASCULAR SYSTEM.

106149 13-03

POTENTIATION OF THE CARDIOVASCULAR EFFECTS OF SOME CATECHOLAMINES BY A MONOAMINE OXIDASE INHIBITOR.

120417 13-13

CARDIOVASCULAR EFFECTS OF CHRONIC RESERPINE ADMINISTRATION IN MONGREL DOGS.

125650 13-03

## CARDIOVERSION

INTRAVENOUS DIAZEPAM FOR DIRECT CURRENT CARDIOVERSION.

101990 13-16

## CASE

COMPARISON OF THIORIDAZINE TABLETS TO CHLORPROMAZINE SPANSULES IN THE MAINTENANCE CARE OF CHRONIC SCHIZOPHRENICS.

097554 13-07

## CAROTID

NEUROLEPTANALGESIA IN BILATERAL SIMULTANEOUS CAROTID ANGIOGRAPHY.

102281 13-14

## CASE

A CASE OF ORGANOPHOSPHORUS INDUCED PSYCHOSIS.

074828 13-15

A CASE WITH GILLES-DE-LA-TOURETTE'S SYNDROME: RECURRENT REFRACTORYNESS TO HALOPERIDOL AND UNSUCCESSFUL TREATMENT WITH L-DOPA.

085013 13-10

CASE REPORT OF AN UNUSUAL COURSE OF HEPATOLENTICULAR DEGENERATION.

087019 13-15

NUTMEG POISONING - A CASE REPORT.

089179 13-15

ALTERED STATES OF CONSCIOUSNESS: AN EXPERIMENTAL CASE STUDY.

090490 13-12

DIAZEPAM TREATMENT IN A CASE OF STRYCHNINE POISONING.

099085 13-13

MANIC RESPONSE TO LEVODOPA THERAPY: REPORT OF A CASE.

099922 13-15

RENAL FUNCTIONAL DAMAGE DURING THE COURSE OF LITHIUM THERAPY: A CASE REPORT WITH RENAL BIOPSY FINDINGS.

100206 13-15

CLINICAL HYPOTHYROIDISM OCCURRING DURING LITHIUM TREATMENT: TWO CASE HISTORIES AND A REVIEW OF THYROID FUNCTION IN PATIENTS.

101061 13-15

APNEA FOLLOWING METHAQUALONE INGESTION: REPORT OF A CASE.

102916 13-15

SLEEP APNEA AND SLEEP REGULATING MECHANISM: A CASE EFFECTIVELY TREATED WITH MONOCHLORIMIPRAMINE.

111589 13-13

CASE OF THE CIRCULAR FORM OF CYCLOPHRENIA TREATED WITH LITHIUM CARBONATE FOR A PERIOD OF 4 YEARS.

118218 13-09

CASE OF DELIRIUM FOLLOWING RESUSCITATION, WITH MILD PSYCHOORGANIC SEQUELAE.

118222 13-09

ELECTROCLINICAL STUDY OF A CASE OF NEUROMYOTONIA WITH MYOKYMIA, REACTING FAVORABLY TO CARBAMAZEPINE TREATMENT.

121796 13-13

## CASTRATED

EFFECT OF PARA-CHLOROPHENYLALANINE ON THE BEHAVIOUR OF CASTRATED MALE RATS.

087360 13-04

## CASUAL

ADMINISTRATION OF MARIJUANA TO HEAVY AND CASUAL MARIJUANA USERS.

100821 13-14

## CAT

EFFECT OF LITHIUM ON THE RELEASE OF 14C-NOREPINEPHRINE BY NERVE STIMULATION FROM THE PERFUSED CAT SPLEEN.

077989 13-03

METABOLIC FATE OF AMPHETAMINE IN THE CAT DURING DEVELOPMENT OF TOLERANCE.

077990 13-03

SPECIFICITY OF ACTION OF 6-HYDROXYDOPAMINE IN PERIPHERAL CAT TISSUES: DEPLETION OF NORADRENALINE WITHOUT DEPLETION OF 5-HYDROXYTRYPTAMINE.

088486 13-03

- CHOLINERGIC MECHANISM DETERMINES THE OCCURRENCE OF REWARD CONTINGENT POSITIVE VARIATION (RCPV) IN CAT. 088543 13-03
- MODIFICATION BY A TRICYCLIC SERIES OF COMPOUNDS OF THE NORADRENALINE EFFECT ON THE CAT NICITATING MEMBRANE. 089326 13-03
- THE EFFECTS OF MORPHINE, PENTOBARBITAL AND CHLORPROMAZINE ON BIOELECTRICAL POTENTIALS EVOKED IN THE BRAIN STEM OF THE CAT BY ELECTRICAL STIMULATION OF THE GINGIVA AND TOOTH PULP. 094254 13-03
- THE CENTRAL METABOLISM OF SEROTONIN IN THE CAT DURING INSOMNIA: A NEUROPHYSIOLOGICAL AND BIOCHEMICAL STUDY AFTER ADMINISTRATION OF P-CHLOROPHENYLALANINE OR DESTRUCTION OF THE RAPHE SYSTEM. 099261 13-03
- ETHANOL AND THE NEURAL SUBSTRATE FOR AFFECTIVE DEFENSE IN THE CAT. 101748 13-04
- BEHAVIORAL AND EEG PATTERNS IN THE CAT COINCIDENT WITH SYSTEMATIC AND INTRACRANIAL STIMULATION WITH D-AMPHETAMINE SULFATE DURING A VISUAL DISCRIMINATION TASK. (PH.D.DISSERTATION). 102635 13-03
- EFFECTS OF BENZODIAZEPINES ON SPONTANEOUS ELECTRICAL ACTIVITY OF SUBCORTICAL AREAS IN BRAIN OF CAT. 103649 13-03
- EFFECTS OF NARCOTIC ANALGESICS AND ANTAGONISTS ON THE IN VIVO RELEASE OF ACETYLCHOLINE FROM THE CEREBRAL CORTEX OF THE CAT. 104537 13-03
- METHAMPHETAMINE EFFECTS UPON AVOIDANCE BEHAVIOR DURING LIMBIC SEIZURES IN THE CAT. 104797 13-04
- DIFFERENTIAL ACTION OF DIAZEPAM ON FLIGHT AND DEFENSE BEHAVIOR IN THE CAT. 104808 13-04
- EFFECT OF ESERINE INJECTED INTRAVENTRICULARLY ON BEHAVIOUR AND ON ACTIVITY OF CHOLINESTERASE IN SOME STRUCTURES OF THE CEREBRAL VENTRICLES OF THE CONSCIOUS CAT. 106424 13-04
- THE CENTRALLY INDUCED FALL IN BLOOD PRESSURE AFTER THE INFUSION OF AMPHETAMINE AND RELATED DRUGS INTO THE VERTEBRAL ARTERY OF THE CAT. 106911 13-03
- THE RELEASE OF 3H-DOPAMINE FROM CAT BRAIN FOLLOWING ELECTRICAL STIMULATION OF THE SUBSTANTIA-NIGRA AND CAUDATE NUCLEUS. 107046 13-03
- THE INFLUENCE OF PARGYLINE ON THE EFFECTS OF IN VITRO DOPAMINE INFUSIONS IN THE CAT SPLEEN. 107193 13-03
- THE EFFECT OF IMIPRAMINE AND SELECTED DRUGS ON ATTACK ELICITED BY HYPOTHALAMIC STIMULATION IN THE CAT. 107960 13-04
- RELEASE OF CATECHOLAMINE FROM THE CAT HEART BY SOME DIRECTLY AND INDIRECTLY ACTING SYMPATHOMIMETIC AMINES. 108288 13-03
- REINVESTIGATION OF THE EFFECTS OF GAMMA-HYDROXYBUTYRATE ON THE SLEEP CYCLE OF THE UNRESTRAINED INTACT CAT. 109621 13-03
- EFFECTS OF MESCALINE AND NEMBUTAL ON CORTICAL AND RETINAL LIGHT EVOKED RESPONSES IN THE CAT. (PH.D.DISSERTATION). 109622 13-03
- EFFECT OF NEMBUTAL ON THE INHIBITORY WAVE OF ANTIDROMICALLY INDUCED POTENTIAL IN THE MOTOR CORTEX OF THE CAT. 111136 13-03
- COMPARISON OF THE EFFECTS OF CYCLAZOCINE AND IMIPRAMINE ON THE CIRCADIAN SLEEP WAKING CYCLE OF THE CAT. 121220 13-05
- THE EFFECT OF PHENYL-ALKYL HYDRAZINES ON CAT BLOOD PRESSURE. 122046 13-03
- EFFECTS OF SOME NARCOTIC ANALGESICS UPON THE MONOSYNAPTIC REFLEX INHIBITION FROM MUSCULAR AND CUTANEOUS AFFERENTS IN SPINAL CORD OF THE CAT. 125327 13-03
- EFFECTS ON THE AMYGDALO-HIPPOCAMPAL EVOKED POTENTIAL IN THE CAT OF FOUR BENZODIAZEPINES AND SOME OTHER PSYCHOTROPIC DRUGS. 125960 13-03
- CATABOLISM**
- INHIBITION OF ALDEHYDE DEHYDROGENASE BY 2-CHLOROACETOPHENONE AND THE RESULTANT EFFECTS OF THE CATABOLISM OF NOREPINEPHRINE ON BRAIN. 077726 13-03
- CATABOLISM OF 3H-HISTAMINE IN THE RAT BRAIN AFTER INTRACISTERNAL ADMINISTRATION. 107194 13-03
- CATALEPSY**
- CHOLINERGIC AND NEUROLEPTIC INDUCED CATALEPSY: MODIFICATION BY LESIONS IN THE CAUDATE PUTAMEN. 086899 13-03
- EFFECTS OF APOMORPHINE AND AMPHETAMINE IN RATS WITH A PERMANENT CATALEPSY INDUCED BY DIENCEPHALIC LESION. PHARMACOLOGY. 105118 13-03
- EFFECT OF SOME AMPHETAMINE ANALOGUES ON ALPHA-METHYL-P-TYROSINE INDUCED CATALEPSY IN RATS. 108797 13-03
- CHOLINERGIC AND NEUROLEPTIC INDUCED CATALEPSY: MODIFICATION BY LESIONS IN THE GLOBUS-PALLIDUS AND SUBSTANTIA-NIGRA. 122542 13-03
- EFFECT OF CALCIUM ON RESERPINE INDUCED CATALEPSY. 122549 13-03
- CATALYST**
- METHYLPHENIDATE: A CATALYST FOR THE TRICYCLIC ANTIDEPRESSANTS. 100880 13-13
- CATATONIA**
- CATATONIA INDUCED IN THE RABBIT BY INTRACEREBRAL INJECTION OF BRADYKININ AND MORPHINE. 120716 13-03
- CATECHOL-O-METHYLTRANSFERASE**
- PYRIDOXAL-5-PHOSPHATE - AN INHIBITOR OF CATECHOL-O-METHYLTRANSFERASE IN VITRO. 088546 13-03
- CATECHOL-O-METHYLTRANSFERASE AND MONOAMINE OXIDASE ACTIVITIES IN RAT SUBMAXILLARY GLAND: EFFECTS OF LIGATION, SYMPATHECTOMY AND SOME DRUGS. 099645 13-03
- THE EFFECT OF COCAINE ON CATECHOL-O-METHYLTRANSFERASE AND ON THE RESPONSE TO NOREPINEPHRINE OF RABBIT AORTIC STRIPS. 105391 13-03
- REDUCTION OF CATECHOL-O-METHYLTRANSFERASE ACTIVITY BY CHRONIC L-DOPA THERAPY. 107995 13-15
- CATECHOLAMINE**
- DIFFERENTIAL EFFECTS OF D- AND L-AMPHETAMINE ON BEHAVIOR AND ON CATECHOLAMINE DISPOSITION IN DOPAMINE AND NOREPINEPHRINE CONTAINING NEURONS OF RAT BRAIN. 078134 13-04
- CATECHOLAMINES AND MANIA: THE EFFECT OF ALPHA-METHYL-P-TYROSINE ON MANIC BEHAVIOR AND CATECHOLAMINE METABOLISM. 079064 13-09
- THE SEROTONIN CATECHOLAMINE - DREAM BICYCLE: A CLINICAL STUDY (UNPUBLISHED PAPER). 085951 13-13
- MINOR TRANQUILLIZERS, STRESS AND CENTRAL CATECHOLAMINE NEURONS. 086808 13-03
- EFFECT OF INHIBITION OF CATECHOLAMINE SYNTHESIS ON CENTRAL CATECHOLAMINE-CONTAINING NEURONES IN THE DEVELOPING ALBINO RAT. 089441 13-03
- THE INFLUENCE OF ADRENOLYTIC AGENTS ON THE CATECHOLAMINE TOXIC ACTION IN MICE AND RATS. 098296 13-05
- EFFECT OF PARA-METHOXYAMPHETAMINE ON CATECHOLAMINE METABOLISM IN THE MOUSE BRAIN. 101543 13-03
- CATECHOLAMINE DEPLETION AND ADRENERGIC NEURONE BLOCKADE: STUDIES WITH DEBRISOQUINE. 104011 13-03
- STRESS RELATED EFFECTS OF VARIOUS INHIBITORS OF CATECHOLAMINE SYNTHESIS IN THE MOUSE. 106152 13-03
- IMPORTANCE OF CATECHOLAMINE RELEASE BY NERVE IMPULSES FOR FREE OPERANT BEHAVIOR. 106757 13-04
- RELEASE OF CATECHOLAMINE FROM THE CAT HEART BY SOME DIRECTLY AND INDIRECTLY ACTING SYMPATHOMIMETIC AMINES. 108288 13-03
- EFFECTS OF AMPHETAMINE ON SINGLE CELL ACTIVITY IN A CATECHOLAMINE NUCLEUS, THE LOCUS COERULEUS. 111661 13-03
- EFFECT OF IMIPRAMINE ON CATECHOLAMINE CONTENT IN A NEUROGENICALLY DYSTROPHIC GASTRIC WALL. 113520 13-03
- CATECHOLAMINE-CONTAINING**
- EFFECT OF INHIBITION OF CATECHOLAMINE SYNTHESIS ON CENTRAL CATECHOLAMINE-CONTAINING NEURONES IN THE DEVELOPING ALBINO RAT. 089441 13-03

# Subject Index

# Psychopharmacology Abstracts

## CATECHOLAMINES

EFFECT OF TETRABENAZINE AND ALPHA-METHYL-L-TYROSINE ON EXPLORATORY ACTIVITY AND BRAIN CATECHOLAMINES IN RATS. 077425 13-04

CATECHOLAMINES AND MANIA. THE EFFECT OF ALPHA-METHYL-P-TYROSINE ON MANIC BEHAVIOR AND CATECHOLAMINE METABOLISM. 079064 13-09

COMPARATIVE STUDIES OF VARIOUS AMPHETAMINE ANALOGUES DEMONSTRATING DIFFERENT INTERACTIONS WITH THE METABOLISM OF THE CATECHOLAMINES IN THE BRAIN. 079069 13-04

DOUBLE-BLIND STUDY ON THE CORRELATIONS OF URINARY ELIMINATION OF CATECHOLAMINES AND THEIR METABOLITES (SUPPOSED TO COME THROUGH ADRENOCROME, NORADRENOCROME AND DOPACHROME) WITH CLINICAL STATE OF 50 PATIENTS UNDER DIFFERENT PSYCHOPHARMACOLOGIC DRUG. 087003 13-13

EFFECTS OF ACUTE AND CHRONIC AMPHETAMINE INTOXICATION ON BRAIN CATECHOLAMINES IN THE GUINEA-PIG. 088539 13-03

BIOCHEMICAL LABORATORY OF CATECHOLAMINES. 092324 13-13

BIOCHEMICAL PHARMACOLOGY OF CATECHOLAMINES AND ITS CLINICAL IMPLICATIONS (UNPUBLISHED PAPER). 092856 13-03

CATECHOLAMINES AND AFFECTIVE ILLNESS. STUDIES WITH L-DOPA AND ALPHA-METHYL-P-TYROSINE (UNPUBLISHED PAPER). 092897 13-09

BIOSYNTHESIS OF ADRENAL CATECHOLAMINES DURING ADAPTATION TO REPEATED IMMOBILIZATION STRESS (UNPUBLISHED PAPER). 093553 13-03

ADRENAL FUNCTION AND ALCOHOLISM. II. CATECHOLAMINES. 096452 13-13

BRAIN CATECHOLAMINES AND HUMAN SLEEP. 099063 13-14

THE INFLUENCE OF TRAINING AND AVOIDANCE PERFORMANCE ON DISULFIRAM INDUCED CHANGES IN BRAIN CATECHOLAMINES. 100216 13-03

EFFECTS OF METHADONE ON THE ACTION OF CATECHOLAMINES IN ISOLATED PREPARATIONS. 104328 13-03

THE EFFECT OF L-DOPA ON BRAIN CATECHOLAMINES AND MOTILITY IN RATS. 104575 13-03

BEHAVIOR AND BRAIN CONTENTS OF CATECHOLAMINES IN MICE DURING CHRONIC ADMINISTRATION OF METHYLDOPA. 107964 13-04

POTENTIATION OF THE CARDIOVASCULAR EFFECTS OF SOME CATECHOLAMINES BY A MONOAMINE OXIDASE INHIBITOR. 120417 13-13

INTERACTIONS BETWEEN CATECHOLAMINES AND TRICYCLIC AND MONOAMINE OXIDASE INHIBITOR ANTIDEPRESSIVE AGENTS IN MAN. 120418 13-13

## CATS

THE EFFECTS OF ALPHA-METHYLTYROSINE ON SLEEP AND BRAIN NOREPINEPHRINE IN CATS. 082787 13-04

NOREPINEPHRINE CONTAINING NEURONS: SPONTANEOUS ACTIVITY DURING WAKING AND SLEEPING IN FREELY BEHAVING CATS (UNPUBLISHED PAPER). 092976 13-04

THE EFFECTS OF MORPHINE, MORPHINONE AND THEBAINE ON THE EEG AND BEHAVIOR OF RABBITS AND CATS. 100217 13-05

AGGRESSION AND ASSOCIATED NEURAL EVENTS IN CATS: EFFECTS OF PARA-CHLOROPHENYLALANINE COMPARED WITH ALCOHOL. 101287 13-03

EFFECTS OF FENFLURAMINE ON SLEEP WAKEFULNESS IN CATS. 103947 13-04

COMPARATIVE EFFECTS OF TEN ANORECTIC DRUGS ON SLEEP WAKEFULNESS PATTERNS IN CATS. 104174 13-04

THE EFFECT OF CHLORPROTHIXENE AND CAFFEINE ON THE CONDITIONED ALIMENTARY MOTOR REFLEXES IN CATS. 106002 13-04

THE EFFECTS OF SELECTED PHENOTHIAZINES ON THE SLEEP OF CATS. 106525 13-04

EFFECT OF PSYCHOTROPIC AGENTS ON THE EMOTIONAL BEHAVIOR OF CATS INJECTED WITH ACETYLCHOLINE INTO THE CENTRAL GRAY MATTER. 112007 13-04

EFFECT OF THE MONOAMINE OXIDASE INHIBITOR PARGYLINE ON THE UPTAKE OF LABELLED NORADRENALINE BY THE CATS SPLEEN. 120413 13-03

## CAUDATE

CHOLINERGIC AND NEUROLEPTIC INDUCED CATALEPSY: MODIFICATION BY LESIONS IN THE CAUDATE PUTAMEN. 086899 13-03

SENSITIVITY TO HALOPERIDOL OF CAUDATE NEURONES EXCITED BY NIGRAL STIMULATION. 089026 13-03

EFFECTS OF MORPHINE ON CHOLINE ACETYLTRANSFERASE LEVELS IN THE CAUDATE NUCLEUS OF THE RAT. 089050 13-03

THE RELEASE OF 3H-DOPAMINE FROM CAT BRAIN FOLLOWING ELECTRICAL STIMULATION OF THE SUBSTANTIA-NIGRA AND CAUDATE NUCLEUS. 107046 13-03

## CAUSISTIC

A PROPOSAL FOR A CONSISTENT NIGHT THERAPY FOR THE MENTAL PATIENT; CONJOINTLY, A CAUSISTIC CONTRIBUTION TO A DAY NIGHT THERAPY FOR DEPRESSIONS WITH PSYCHOTROPIC DRUGS. 089067 13-09

## CELL

EFFECTS OF CHLORPROMAZINE ON CELL WALL BIOSYNTHESIS AND INCORPORATION OF OROTIC ACID INTO NUCLEIC ACIDS IN BACILLUS-MEGATERIUM. 088517 13-03

EFFECT OF PENTYLENETETRAZOL ON THE LEECH RETZIUS CELL. 099108 13-03

NOREPINEPHRINE STIMULATED INCREASE OF CYCLIC AMP LEVELS IN DEVELOPING MOUSE BRAIN CELL CULTURES. 100103 13-03

MAINTENANCE OF NORADRENALINE IN NEURONAL CELL BODIES AND TERMINALS: EFFECT OF FREQUENCY OF STIMULATION. 105410 13-03

EFFECTS OF AMPHETAMINE ON SINGLE CELL ACTIVITY IN A CATECHOLAMINE NUCLEUS, THE LOCUS COERULEUS. 111661 13-03

## CELLS

CHOLINE ACETYLTRANSFERASE AND ACETYLCHOLINESTERASE IN CULTURED BRAIN CELLS FROM CHICK EMBRYOS. 079663 13-03

NORADRENALINE AND ACETYLCHOLINE RESPONSES OF SUPRAOPTIC NEUROSECRETORY CELLS (UNPUBLISHED PAPER). 092379 13-03

PRELIMINARY REPORT ON THE INCORPORATION OF GUANETHIDINE AND RESERPINE INTO RAT PERITONEAL MAST CELLS IN VITRO. 111073 13-03

EFFECT OF PHENAMINE INDUCED INSOMNIA AND OF SUBSEQUENT SLEEP ON PROTEIN CONTENT IN THE NEURONS AND GLIAL CELLS OF THE SUPRAOPTIC AND RED NUCLEI OF THE BRAIN. 111831 13-03

STUDIES ON DEOXYRIBONUCLEIC ACID METABOLISM IN HUMAN CELLS TREATED WITH LYSERGIC ACID DIETHYLAMIDE. 120470 13-13

THE INTERFERENCE OF TRICYCLIC PSYCHOACTIVE DRUGS ON THE UPTAKE OF BIOGENIC AMINES BY ISOLATED MAST CELLS. 123282 13-03

TOXIC EFFECT OF LSD-25 ON A CULTURE OF KIDNEY CELLS FROM CERCOPITHECUS-AETHIOPS MONKEYS. 125418 13-05

MECHANISMS OF INHIBITION OF CEREBELLAR PURKINJE CELLS IN RAT AND FROG. 125594 13-03

## CELLULAR

H3-LYSERGIC ACID DIETHYLAMIDE: CELLULAR AUTORADIOGRAPHIC LOCALIZATION IN RAT BRAIN. 098956 13-03

## CENESTHOPATHIC

EXPERIENCE WITH TREATMENT OF INDOLENT SCHIZOPHRENIA WITH THE CENESTHOPATHIC HYPOCHONDRIACAL SYNDROME. 102669 13-08

## CENTERS

EFFECTS OF DRUGS ON DEEP BRAIN CENTERS. 077922 13-03

EFFECT OF FENFLURAMINE ON THE ELECTRICAL ACTIVITY OF THE HYPOTHALAMIC FEEDING CENTERS. 102391 13-03

## CENTRAL

CENTRAL NERVOUS SYSTEM AND CARDIOVASCULAR EFFECTS OF LORAZEPAM IN MAN. 077933 13-13

AN EXAMINATION OF THE EFFECT OF CENTRAL NERVOUS SYSTEM STIMULANT AND ANTIDEPRESSANT DRUGS ON OPEN-FIELD PERFORMANCE IN RATS. 078937 13-04

DOPAMINE NOREPINEPHRINE: ANOTHER REGULATORY STEP OF NOREPINEPHRINE SYNTHESIS IN CENTRAL NORADRENERGIC NEURONS. 082825 13-03

MINOR TRANQUILLIZERS, STRESS AND CENTRAL CATECHOLAMINE NEURONS. 086808 13-03

LOCUS OF CENTRAL DEPRESSANT ACTION OF SOME BENZODIAZEPINE ANALOGUES. 089285 13-03

- EFFECT OF INHIBITION OF CATECHOLAMINE SYNTHESIS ON CENTRAL CATECHOLAMINE-CONTAINING NEURONES IN THE DEVELOPING ALBINO RAT. 089441 13-03
- STUDIES ON THE FUNCTIONAL SIGNIFICANCE OF CARBONIC ANHYDRASE IN CENTRAL NERVOUS SYSTEM. 092158 13-03
- AMYOTROPHIC LATERAL SCLEROSIS: METABOLISM OF CENTRAL MONOAMINES AND TREATMENT WITH L-DOPA (UNPUBLISHED PAPER). 093081 13-13
- SOMATOSENSORY EVOKED RESPONSES IN THE MESENCEPHALIC CENTRAL GRAY MATTER OF THE RAT. 097446 13-03
- NEUROPHARMACOLOGICAL PROPERTIES OF SU17595A, A CHLORPROMAZINE-LIKE CENTRAL NERVOUS SYSTEM DEPRESSANT. 098158 13-03
- THE INVOLVEMENT OF CENTRAL CHOLINERGIC MECHANISMS IN THE FORMATION AND INHIBITION OF CONDITIONAL REFLEXES IN RATS. 098295 13-04
- CENTRAL NERVOUS SYSTEM EFFECTS OF SIDA-RETUSA ROOT. 098306 13-04
- THE CENTRAL METABOLISM OF SEROTONIN IN THE CAT DURING INSOMNIA: A NEUROPHYSIOLOGICAL AND BIOCHEMICAL STUDY AFTER ADMINISTRATION OF *p*-CHLOROPHENYLALANINE OR DESTRUCTION OF THE RAPHE SYSTEM. 099261 13-03
- CENTRAL CHOLINERGIC BLOCKADE AND TWO-WAY AVOIDANCE ACQUISITION: THE ROLE OF RESPONSE DISINHIBITION. 102097 13-04
- PRELIMINARY STUDIES ON THE CENTRAL EFFECTS OF LORAZEPAM, A NEW BENZODIAZEPINE. 102214 13-07
- OXIDATIVE METABOLISM OF MESCALINE IN THE CENTRAL NERVOUS SYSTEM - II. OXIDATIVE DEAMINATION OF MESCALINE AND 2,3,4 TRIMETHOXY-BETA-PHENYLETHYLAMINE BY DIFFERENT MOUSE BRAIN AREA IN VITRO. 102734 13-03
- ANALYSIS OF THE EFFECTS OF ARGININE N-ACETYLSPARAGINATE ON THE CENTRAL NERVOUS SYSTEM. 103653 13-03
- ACTION OF PICRIC ACID ON THE EFFECTS OF SOME DRUGS ACTING ON THE CENTRAL NERVOUS SYSTEM, WITH SPECIAL REFERENCE TO OPIOIDS. 103655 13-03
- GABA UPTAKE IN RAT CENTRAL NERVOUS SYSTEM: COMPARISON OF UPTAKE IN SLICES AND HOMOGENATES AND THE EFFECTS OF SOME INHIBITORS. 104007 13-03
- A BIPHASIC ACTION OF CENTRAL CHOLINERGIC STIMULATION ON BEHAVIORAL AROUSAL IN THE RAT. 104432 13-04
- CENTRAL ACTION OF PHENTOLAMINE ADMINISTERED INTRAVENTRICULARLY IN THE RAT. 104434 13-03
- ANTAGONISM OF INTRACEREBRALLY INDUCED NICOTINIC CONVULSIONS IN MICE: A METHOD FOR MEASURING THE CENTRAL ANTINICOTINIC ACTIVITY OF CNS ACTING AGENTS. 104807 13-06
- CENTRAL EFFECTS OF 6-HYDROXYDOPAMINE. 105342 13-04
- STRUCTURE ACTIVITY RELATIONSHIP OF 5-TRIAZOLO 1,4 BENZODIAZEPINES IN CENTRAL NERVOUS DEPRESSANT ACTION. 105390 13-02
- PHARMACOLOGICAL STUDIES ON NEW POTENT CENTRAL DEPRESSANTS, 8-CHLORO-6-PHENYL-4H-5-TRIAZOLOBENZODIAZEPINE (D-40TA) AND ITS 1 METHYL ANALOGUE (D-65MT). 105392 13-02
- ENTRY AND DISTRIBUTION OF HEXAMETHONIUM IN THE CENTRAL NERVOUS SYSTEM. 105706 13-03
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN: I. THE ACTION ON THE CENTRAL NERVOUS SYSTEM IN RODENT 105839 13-02
- JB-336 EFFECT ON THE CENTRAL ADRENERGIC SYSTEM. 105992 13-03
- CENTRAL ANTICHOLINERGIC ACTIVITY OF JB-336. 105993 13-03
- EFFECT OF PALMITOYL ETHANOLAMIDE ON THE CENTRAL NERVOUS SYSTEM. 105998 13-02
- THE EFFECT OF MESCALINE AND BUFOTENINE ON SOME CENTRAL ACTIONS OF NORADRENALINE. 106151 13-03
- PRELIMINARY EVIDENCE THAT SYROSLINGOPINE PRODUCES A SELECTIVE DEPLETION OF CENTRAL STORES OF SYMPATHOMIMETIC AMINES. 106422 13-03
- EFFECT OF DIMETHYL AND MONOMETHYL TRICYCLIC ANTIDEPRESSANTS ON CENTRAL 5-HYDROXYTRYPTAMINE PROCESSES IN THE FROG. 106426 13-03
- MIANSERIN HYDROCHLORIDE: PERIPHERAL AND CENTRAL EFFECTS IN RELATION TO ANTAGONISM AGAINST 5-HYDROXYTRYPTAMINE AND TRYPTAMINE. 107160 13-03
- THE ROLE OF CENTRAL M-CHOLINERGIC SYSTEMS IN THE DEVELOPMENT OF FOOD MOTOR CONDITIONED REFLEXES. 107719 13-03
- THE EFFECT OF IMIPRAMINE-LIKE DRUGS AND ANTIHISTAMINE DRUGS ON UPTAKE MECHANISMS IN THE CENTRAL NORADRENALINE AND 5-HYDROXYTRYPTAMINE NEURONS. 107961 13-03
- SELECTIVE EFFECT OF DIAZEPAM ON CERTAIN CENTRAL SYMPATHETIC COMPONENTS. 107963 13-03
- ROLE OF CENTRAL SEROTONINERGIC PROCESSES IN DEVELOPMENT OF HEAD TWITCHES IN MICE AND RATS UNDER THE INFLUENCE OF TRYPTOPHAN. 109920 13-02
- APPETITE SUPPRESSION AND CENTRAL NERVOUS SYSTEM STIMULATION IN THE RHESUS MONKEY. 110185 13-04
- ANALYSIS OF THE CENTRAL EFFECT OF TRYPTAMINE AND N,N DIMETHYLTRYPTAMINE. 111132 13-03
- STUDIES ON THE CENTRAL EFFECTS OF BULBOCAPNINE. 111143 13-03
- EFFECT OF PSYCHOTROPIC AGENTS ON THE EMOTIONAL BEHAVIOR OF CATS INJECTED WITH ACETYLCHOLINE INTO THE CENTRAL GRAY MATTER. 112007 13-04
- ELECTROPHYSIOLOGICAL STUDY OF THE ACTION OF A NEW BENZODIAZEPINE DERIVATIVE (ORF-8063) ON THE CENTRAL NERVOUS SYSTEM. 117025 13-04
- IMPORTANCE OF NERVOUS IMPULSE FLOW FOR THE NEUROLEPTIC INDUCED INCREASE IN AMINE TURNOVER IN CENTRAL DOPAMINE NEURONS. 120717 13-03
- CENTRAL EFFECTS OF SYMPATHOMIMETIC AMINES ON THE BLOOD PRESSURE. 120718 13-03
- STUDIES OF THE SPONTANEOUS MOVEMENT OF ANIMALS BY THE HOLE CROSS TEST; EFFECT OF 2-DIMETHYLAMINOETHANOL AND ITS ACYL ESTERS ON THE CENTRAL NERVOUS SYSTEM. 120930 13-03
- STUDIES ON THE FUNCTIONAL ROLE OF ADENOSINE 3,5 MONOPHOSPHATE, HISTAMINE, AND PROSTAGLANDIN E1 IN THE CENTRAL NERVOUS SYSTEM. 120949 13-14
- THE EFFECT OF LOCAL ANESTHETICS ON THE CENTRAL NERVOUS SYSTEM TOXICITY OF HYPERBARIC OXYGEN. 122540 13-03
- PHARMACOLOGICAL BLOCKADE OF AMPHETAMINE EFFECTS IN SUBJECTS DEPENDENT ON CENTRAL STIMULANTS. 123292 13-13
- THE INFLUENCE OF 1-(O-ALLYLPHENOXY)-3 ISOPROPYLAMINO-2-PROPANOL HYDROCHLORIDE (ALPRENOLOL) ON THE CENTRAL NERVOUS SYSTEM OF THE RAT. 124105 13-03
- DIFFERENCES IN TOLERANCE TO MESCALINE PRODUCED BY PERIPHERAL AND DIRECT CENTRAL ADMINISTRATION. 125255 13-03
- FURTHER OBSERVATION ON THE ENHANCEMENT BY MORPHINE OF THE CENTRAL DESCENDING INHIBITORY INFLUENCE ON SPINAL SENSORY TRANSMISSION. 125358 13-03
- SUPERSENSITIVITY OF CENTRAL NORADRENALINE RECEPTORS AFTER RESERPINE. 125409 13-03
- SEPARATION OF THE EFFECTS OF MAGNESIUM PEMOLINE ON AVOIDANCE LEARNING AND MEMORY FROM ITS CENTRAL NERVOUS SYSTEM STIMULANT PROPERTIES BY CHLORDIAZEPOXIDE. 125410 13-04
- CENTRALLY**
- CORTICOSTERONE ELEVATION MEDIATED CENTRALLY BY DELTA1-TETRAHYDROCANNABINOL IN RATS. 079430 13-03
- THE EFFECTS OF CENTRALLY ADMINISTERED CHLORPROMAZINE ON TEMPERATURE REGULATION IN THE HAMSTER. 089098 13-03
- RELEARNING AT DIFFERENT TIMES AFTER TRAINING AS AFFECTED BY CENTRALLY AND PERIPHERALLY ACTING CHOLINERGIC DRUGS IN THE MOUSE. 097739 13-04

# Subject Index

# Psychopharmacology Abstracts

- 4-BROMO-2,5 DIMETHOXYPHENYLISOPROPYLAMINE, A NEW CENTRALLY ACTIVE AMPHETAMINE ANALOG. 105535 13-07
- THE CENTRALLY INDUCED FALL IN BLOOD PRESSURE AFTER THE INFUSION OF AMPHETAMINE AND RELATED DRUGS INTO THE VERTEBRAL ARTERY OF THE CAT. 106911 13-03
- ACTION OF VARIOUS CENTRALLY ACTING AGENTS IN MICE WITH UNILATERAL 108731 13-03
- MODIFICATION OF THE ANTI-NOCEPTIVE ACTIVITY OF MORPHINE BY CENTRALLY ADMINISTERED OUABAIN AND DOPAMINE. 110188 13-03
- CERCOPITHECUS-AETHIOPS**
- TOXIC EFFECT OF LSD-25 ON A CULTURE OF KIDNEY CELLS FROM CERCOPITHECUS-AETHIOPS MONKEYS. 125418 13-05
- CEREBELLAR**
- EFFECTS OF ALCOHOL ON CEREBELLAR AND VESTIBULAR NEURONES. 103654 13-03
- MECHANISMS OF INHIBITION OF CEREBELLAR PURKINJE CELLS IN RAT AND FROG. 125594 13-03
- CEREBELLUM**
- CEREBRAL LYSOSOMES. VI. THE IN VIVO UPTAKE OF TRITON-WR-1339 BY THE LYSOSOMES OF THE IMMATURE CEREBRAL CORTEX AND CEREBELLUM. 088285 13-03
- CEREBRAL**
- P-CHLOROAMPHETAMINE: SPECIES DIFFERENCES IN THE RATE OF DISAPPEARANCE AND THE LOWERING OF CEREBRAL SEROTONIN. 077869 13-03
- THE EFFECT OF PAPAVERINE ON PATIENTS WITH CEREBRAL ARTERIOSCLEROSIS. 086936 13-14
- ROLE OF CEREBRAL DOPAMINE IN THE ACTION OF PSYCHOTROPIC DRUGS. 087361 13-04
- CEREBRAL LYSOSOMES. VI. THE IN VIVO UPTAKE OF TRITON-WR-1339 BY THE LYSOSOMES OF THE IMMATURE CEREBRAL CORTEX AND CEREBELLUM. 088285 13-03
- DEPRESSION AND CEREBRAL DOMINANCE: A STUDY OF BILATERAL INTRACAROTID AMYTAL IN ELEVEN DEPRESSED PATIENTS. 093815 13-09
- FOLIC ACID CONCENTRATIONS IN CEREBROSPINAL FLUID IN RELATION TO ANTICONVULSANT DRUGS AND CEREBRAL ATROPHY. 100809 13-11
- LACK OF EFFECT OF FOLIC ACID ADMINISTRATION ON CEREBRAL METABOLISM. 101764 13-05
- BIOCHEMICAL STUDIES OF CEREBRAL SUBFRACTIONS AFTER CHRONIC ADMINISTRATION OF PYRIDAZINE (N-MORPHOLINE 3-ETHYLAMINE 4-PHENYL 6-PYRIDAZINE HYDROCHLORIDE, AG-620). 102694 13-03
- EFFECTS OF NARCOTIC ANALGESICS AND ANTAGONISTS ON THE IN VIVO RELEASE OF ACETYLCHOLINE FROM THE CEREBRAL CORTEX OF THE CAT. 104537 13-03
- EFFECT OF ESERINE INJECTED INTRAVENTRICULARLY ON BEHAVIOUR AND ON ACTIVITY OF CHOLINESTERASE IN SOME STRUCTURES OF THE CEREBRAL VENTRICLES OF THE CONSCIOUS CAT. 106424 13-04
- MINIMAL CEREBRAL DYSFUNCTION. 106602 13-11
- THE INFLUENCE OF LYSERGIC ACID DIETHYLAMIDE ON THE ACTIVITY OF SOLITARY NEURONS OF SOME CEREBRAL REGIONS. 107722 13-03
- EFFECTS OF SOME SYMPATHOMIMETIC DRUGS AND THEIR ANTAGONIST ON AFTERDISCHARGES ELICITED IN CHRONICALLY ISOLATED SLABS OF CEREBRAL CORTEX. 108793 13-03
- THE UPTAKE OF MORPHINE BY THE CHOROID PLEXUS AND CEREBRAL CORTICAL SLICES OF ANIMALS CHRONICALLY TREATED WITH MORPHINE. 122543 13-03
- CEREBROSCLECTIC**
- NEW POSSIBILITIES OF CONTROLLING STATES OF UNREST OF A PSYCHOMOTOR OR CEREBROSCLECTIC NATURE IN INSTITUTIONAL GERIATRICS. 102383 13-11
- CEREBROSPINAL**
- EFFECTS OF THIOPROPRAZINE ON THE URINARY EXCRETION AND CONCENTRATION IN THE CEREBROSPINAL FLUID OF 5-HYDROXYINDOLEACETIC ACID IN THE CHRONIC SCHIZOPHRENIC. 074835 13-13
- FOLIC ACID CONCENTRATIONS IN CEREBROSPINAL FLUID IN RELATION TO ANTICONVULSANT DRUGS AND CEREBRAL ATROPHY. 100809 13-11
- EFFECTS OF ALPHA-METHYLTYROSINE ON THE CEREBROSPINAL FLUID CONTENT OF HVA AND 5-HIAA IN MAN. 104570 13-13
- EFFECT OF DRUGS USED IN STATUS-EPILEPTICUS ON THE POTASSIUM FLUXES OF CEREBROSPINAL FLUID IN THE CONSCIOUS DOG. 120412 13-03
- CEREBROVASCULAR**
- PHARMACOLOGICAL COMPARISON OF PROSTAGLANDIN-F-2-ALPHA, SEROTONIN AND NOREPINEPHRINE ON CEREBROVASCULAR TONE OF MONKEY. 099653 13-03
- CERIC**
- USE OF CERIC SULFATE AND CUPRIC PERCHLORATE FOR TITRIMETRIC ANALYSES OF PHENOTHIAZINE DERIVATIVES. 082763 13-06
- CERVEAU**
- THE INFLUENCE OF HARMINE ON BIOELECTRIC ACTIVITY IN CERVEAU ISOLE RATS. 125071 13-03
- CESSATION**
- CESSATION OF STATUS-EPILEPTICUS WITH UNITHIOL. 110144 13-13
- WITHDRAWAL SYMPTOMS FOLLOWING CESSATION OF PROLONGED NEUROLEPTIC THERAPY. 118127 13-08
- CHAIN**
- ENHANCEMENT OF FATTY ACID OXIDATION AND MEDIUM CHAIN FATTY ACYL COENZYME A SYNTHETASE BY ADENINE NUCLEOTIDES IN RAT HEART HOMOGENATES. 089434 13-03
- POTENTIATION BY COCAINE OF RESPONSES OF THE GUINEA-PIG ISOLATED TRACHEAL CHAIN TO ETHYLNORADRENALINE AND ALPHA-METHYLNORADRENALINE. 122550 13-03
- CHANGES**
- DOM (STP), A NEW HALLUCINOGENIC DRUG: SPECIFIC PERCEPTUAL CHANGES. 078958 13-12
- NALORPHINE INDUCED CHANGES IN MORPHINE SELF-ADMINISTRATION IN RHESUS MONKEYS. 082719 13-04
- CHANGES IN THE RETENTION AND METABOLISM OF 3H-1-NOREPINEPHRINE IN RAT BRAIN IN VIVO AFTER 6-HYDROXYDOPAMINE PRETREATMENT. 082721 13-03
- CHANGES IN PRIMATE SOCIAL BEHAVIOR AFTER TREATMENT WITH ALPHA-METHYL-P-TYROSINE. 085419 13-04
- CHANGES IN NOREPINEPHRINE TURNOVER IN RAT BRAIN DURING CHRONIC ADMINISTRATION OF IMIPRAMINE AND PROTRIPTYLINE: A POSSIBLE EXPLANATION FOR THE DELAY IN ONSET OF CLINICAL ANTIDEPRESSANT EFFECTS. 086251 13-03
- CHANGES IN SOMATOSENSORY EVOKED POTENTIALS DURING FLUPHENAZINE TREATMENT. 087001 13-13
- BIOCHEMICAL CHANGES IN DEPRESSION. 087469 13-09
- DAILY RHYTHMIC CHANGES IN HEPATIC PHENYLALANINE HYDROXYLASE ACTIVITY: ROLE OF DIETARY PHENYLALANINE. 088557 13-03
- THE INFLUENCE OF HYPOTHERMIA ON CHLORPROMAZINE INDUCED METABOLIC CHANGES IN MOUSE HEART AND BRAIN. 088641 13-03
- EEG CHANGES WITH LITHIUM THERAPY. 089070 13-09
- CHANGES IN CALCIUM AND MAGNESIUM METABOLISM IN DEPRESSIONS AND DELIRIUM-TREMENS. 089200 13-13
- CHANGES IN REM SLEEP OF CHRONIC ANXIOUS DEPRESSED PATIENTS GIVEN ALPHA-METHYL-P-TYROSINE (UNPUBLISHED) PAPER. 093260 13-10
- EVALUATING CHANGES IN SYMPTOMS DURING ACUTE ALCOHOLIC WITHDRAWAL. 097378 13-11
- INTERACTION OF SEROTONIN ANTAGONISTS WITH HARMALINE INDUCED CHANGES IN OPERANT BEHAVIOR AND BODY TEMPERATURE IN THE RAT. 098160 13-03
- PLASMA CORTICOSTERONE CHANGES FOLLOWING ALTERATIONS IN BRAIN NOREPINEPHRINE AND SEROTONIN. 098290 13-03
- A SYSTEMATIC CLINICAL STUDY WITH NICOTINIC ACID, THIORIDAZINE, FLUOXYMESTERONE AND THEIR COMBINATIONS IN HOSPITALIZED

- GERIATRIC PATIENTS: THERAPEUTIC RESULTS AND CHANGES IN PSYCHOMETRIC TEST PERFORMANCE. 098507 13-11
- POST-MORTEM CHANGES IN TISSUE LEVELS OF SODIUM SECOBARBITAL. 098634 13-03
- THE EFFECT OF DRUGS ON HYPERACTIVITY IN CHILDREN WITH SOME OBSERVATIONS OF CHANGES IN MINERAL METABOLISM. 098894 13-14
- EVALUATION OF TRANQUILLISERS WITH SUBNORMAL PATIENTS. 3. BEHAVIOURAL CHANGES. 099747 13-14
- THE INFLUENCE OF TRAINING AND AVOIDANCE PERFORMANCE ON DISULFIRAM INDUCED CHANGES IN BRAIN CATECHOLAMINES. 100216 13-03
- ELECTROCARDIOGRAPHIC T-WAVE CHANGES DURING LITHIUM CARBONATE TREATMENT. 100271 13-13
- CHANGES IN FREE FATTY ACIDS OF BRAIN BY DRUG-INDUCED CONVULSIONS, ELECTROSHOCK AND ANESTHESIA. 100868 13-03
- POTENTIATION IN RATS OF BUFOTENIN INDUCED BEHAVIORAL CHANGES BY CHLORPROMAZINE. 101570 13-04
- ELECTROENCEPHALOGRAPHIC CHANGES DURING PYRITHOXINE (ENCEPHABOL) THERAPY. 101936 13-13
- ALTERATION OF BEHAVIOURAL CHANGES INDUCED BY 3,4,5-TRIMETHOXYPHENYLETHYLAMINE (Mescaline) BY PRETREATMENT WITH 2,4,5-TRIMETHOXYPHENYLETHYLAMINE: A SELF-EXPERIMENT. 102193 13-12
- ELECTROENCEPHALOGRAPHIC CHANGES DURING PYRITHOXINE (ENCEPHABOL) THERAPY. 102604 13-13
- CHANGES IN THE FORMATION OF 3H-CATECHOLAMINES FROM 3H-DOPA AND 3H-TYROSINE INDUCED BY UNLABELLED DOPA. 103313 13-03
- OBSERVATIONS ON CHANGES IN THE CLINICAL PHENOMENOLOGY OF MANIC PHASES UNDER EXTENDED LITHIUM THERAPY. 103797 13-14
- REGIONAL AND SUBCELLULAR CHANGES IN THE CONCENTRATION OF 5-HYDROXYTRYPTAMINE AND 5-HYDROXYINDOLEACETIC ACID IN THE RAT BRAIN CAUSED BY HYDROCORTISONE, DL-ALPHA-METHYLTRYPTOPHAN, L-KYNURENE AND IMMOBILIZATION. 104538 13-03
- SOMATOSENSORY EVOKED POTENTIAL CHANGES DURING THIOTHIXENE TREATMENT IN SCHIZOPHRENIC PATIENTS. 105008 13-08
- EEG CHANGES AFTER FLUPHENAZINE ENANTHATE AND DECANOATE BASED ON ANALOG POWER SPECTRA AND DIGITAL COMPUTER PERIOD ANALYSIS. 105009 13-13
- ECG CHANGES IN FATAL IMIPRAMINE (TOFRANIL) INTOXICATION. 105387 13-15
- EEG CHANGES AFTER PSILOCYBIN IN ORGANIC BRAIN LESIONS. 106000 13-13
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: CHANGES IN THE DIURNAL RHYTHM AND PSYCHIATRIC MENTAL STATUS ON WITHDRAWAL OF DRUGS. 106050 13-08
- SLEEP, PSYCHOLOGICAL AND CLINICAL CHANGES DURING ALCOHOL WITHDRAWAL IN NAU-TREATED ALCOHOLICS. 106132 13-11
- HANDWRITING CHANGES FOLLOWING MEPROBAMATE AND ALCOHOL: A GRAPHOMETRIC GRAPHOLOGICAL INVESTIGATION. 106143 13-14
- DIGITAL COMPUTER ANALYZED RESTING AND SLEEP EEG INVESTIGATIONS AND CLINICAL CHANGES DURING MOLINDONE TREATMENT. 107244 13-08
- MESCALINE INDUCED CHANGES OF BRAIN CORTEX RIBOSOMES. EFFECT OF MESCALINE ON AMINO ACID INCORPORATING ABILITY OF RIBOSOMES. 109418 13-03
- TREATMENT OF PERSISTENT MENTAL CHANGES IN CHILDREN WITH EPILEPSY. 109947 13-14
- MONOAMINES AND OVARIAN HORMONE LINKED SEXUAL AND EMOTIONAL CHANGES: A REVIEW. 110462 13-17
- EFFECT OF ANTICHLINESTERASE SUBSTANCES ON CHANGES OF CONDITIONED REFLEXES INDUCED BY CHLORPROMAZINE. 111133 13-04
- CHANGES IN THE REACTIVITY OF NEURONS OF THE PROJECTION CORTEX UNDER THE EFFECT OF NEMBUTAL. 111816 13-03
- CHANGES IN THE ACTIVITY OF OXIDATIVE ENZYMES IN THE BRAIN OF RATS UNDER THE EFFECT OF TRIFLUOPERAZINE (STELAZINE). 113522 13-03
- EYE CHANGES IN CONNECTION WITH NEUROLEPTIC TREATMENT ESPECIALLY CONCERNING PHENOTHIAZINES AND THIOXANTHINES. 115395 13-13
- CLINICAL AND QUANTITATIVE EEG CHANGES AT DIFFERENT DOSAGE LEVELS OF FLUPHENAZINE TREATMENT. 115401 13-08
- EFFECTS OF DRUG STATE CHANGES UPON TWO-WAY SHUTTLE AVOIDANCE RESPONSES IN RATS, TREATED WITH CHLORDIAZEPoxide OR PLACEBO. 117747 13-04
- CHANGES IN THE BLADDER AND SPHINCTER TONUS OF THE BLADDER BY MEANS OF THYMOLEPTICS: CYSTOMANOMETRIC STUDIES IN MAN. 122292 13-15
- CHARACTEROPATHIC CHANGES AND EXPRESSIVE APHASIA IN A CHILD WITH CONGENITAL AGENESIS OF THE SEPTUM PELLUCIDUM. 122951 13-11
- EXTRAPYRAMIDAL MOTORIC SYMPTOMS AND EEG CHANGES AFTER APPLICATION OF PHENOTHIAZINE DERIVATIVES. 123602 13-15
- CHANGES IN A HEXOBARBITAL ANESTHESIA THRESHOLD IN RATS INDUCED BY REPEATED LONG-TERM TREATMENT WITH BARBITAL OR ETHANOL. 125248 13-03
- EFFECTS OF DRUG STATE CHANGES UPON BLACK WHITE DISCRIMINATION LEARNING IN RATS. 125253 13-04
- SOMATOSENSORY EVOKED POTENTIAL CHANGES DURING THIOTHIXENE TREATMENT IN SCHIZOPHRENIC PATIENTS. 125568 13-08
- EFFECT OF THANATOLOGIC CHANGES ON THE IMIPRAMINE CONTENT OF INTERNAL ORGANS. 126160 13-03
- CHARACTERISTICS**
- AMNESIC EFFECTS OF CYCLOHEXIMIDE ON TWO STRAINS OF MICE WITH DIFFERENT MEMORY CHARACTERISTICS. 082799 13-04
- THE SINGLE SOCIOPATH: PHYSIOLOGIC AND SOCIOLOGIC CHARACTERISTICS. 085192 13-11
- AN ATTEMPT TO CORRELATE THE EFFECT OF IMIPRAMINE AND OF AMITRIPTYLINE WITH SOME GENETIC CHARACTERISTICS. 086077 13-13
- PHYSICIAN CHARACTERISTICS AND ATTITUDES TOWARD LEGITIMATE USE OF PSYCHOTHERAPEUTIC DRUGS. 093860 13-17
- EXPERIMENTAL CHARACTERISTICS OF SOME MANIFESTATIONS COMMON TO THE WITHDRAWAL SYNDROME FOLLOWING DISCONTINUANCE OF LONG-TERM ADMINISTRATION OF DIAZEPAM AND CHLORDIAZEPoxide. 111134 13-04
- AMINE UPTAKE CHARACTERISTICS OF THE GUINEA-PIG AUERBACH PLEXUS. 120466 13-03
- CHARACTERIZATION**
- CHARACTERIZATION OF THE BLOCKING EFFECTS OF EN-1639A (N-CYCLOPROPYLMETHYL 7,8-DIHYDRO 14-HYDROXYNORMORPHINE HCL). (UNPUBLISHED PAPER). 088400 13-13
- CHARACTEROPATHIC**
- CHARACTEROPATHIC CHANGES AND EXPRESSIVE APHASIA IN A CHILD WITH CONGENITAL AGENESIS OF THE SEPTUM PELLUCIDUM. 122951 13-11
- CHARCOAL**
- DIALYSIS OF DRUGS AGAINST ACTIVATED CHARCOAL. 078162 13-16
- CHEMICAL**
- CHEMICAL INTERFERENCE WITH AGING. 095301 13-17
- SERUM DOPAMINE-BETA-HYDROXYLASE: DECREASE AFTER CHEMICAL SYMPATHECTOMY. 099018 13-03
- HUMAN PROBLEMS AND CHEMICAL SOLUTIONS. 106159 13-17
- ON THE RELATIONSHIP BETWEEN THE CHEMICAL STRUCTURE AND PSYCHOTROPIC ACTIVITY AMONG DERIVATIVES OF BENZODIOXANE AND TRIMETHYLBENZOIC AND TRIMETHOXYBENZOIC ACIDS. 111291 13-03
- CORRELATION OF CHEMICAL STRUCTURE OF PHENOTHIAZINES WITH THEIR CORONARY DILATOR AND ANTIARRHYTHMIC ACTIVITIES. 120929 13-03
- THE EFFECTS OF SEVERAL CHEMICAL AGENTS ON SHORT-TERM MEMORY. 122758 13-02
- CHEMISTRY**
- PEYOTE CONSTITUENTS: CHEMISTRY, BIOGENESIS, AND BIOLOGICAL EFFECTS. 069047 13-12
- CHEMISTRY AND PHARMACOLOGICAL EVALUATION OF 1-PHENYL-2-PROPANOLS AND 1-PHENYL-2-PROPANONES. 087062 13-02

## Subject Index

- THE CHEMISTRY OF MIND. 096332 13-13
- CANNABIS: CHEMISTRY AND BIOLOGY. 104764 13-13
- AMPHETAMINES IN HYPERKINESIA: BETTER LEARNING THROUGH CHEMISTRY. 105485 13-14
- CHEMISTRY AND PHARMACOLOGY OF MARIJUANA. 111998 13-17
- CHEMODE  
IN VIVO CHEMODE DIFFUSION OF L-DOPA. 098208 13-06
- CHEMOLUMINESCENCE  
INTERFERENCE OF CHEMOLUMINESCENCE WITH 3H SCINTILLATION COUNTING. 105405 13-06
- CHEMOTHERAPY  
DISCONTINUATION OF CHEMOTHERAPY FOR CHRONIC SCHIZOPHRENICS. 069197 13-08
- CURRENT STATUS OF CHEMOTHERAPY OF SCHIZOPHRENIA. 099011 13-08
- ADVANCES IN PHARMACOLOGY AND CHEMOTHERAPY. 108525 13-17
- CHICK  
CHOLINE ACETYLTRANSFERASE AND ACETYLCHOLINESTERASE IN CULTURED BRAIN CELLS FROM CHICK EMBRYOS. 079663 13-03
- LSD: TERATOGENIC ACTION IN CHICK BLASTODERMS. 089286 13-05
- THE EFFECTS OF CHRONIC ADMINISTRATION OF SOME CHOLINERGIC AND ADRENERGIC DRUGS ON THE ACTIVITY OF CHOLINE ACETYLTRANSFERASE IN THE OPTIC LOBES OF THE CHICK BRAIN. 100219 13-03
- CHICKENS  
THE EFFECTS OF A TRANQUILIZER ON THE IMMOBILITY REACTION IN CHICKENS: ADDITIONAL SUPPORT FOR THE FEAR HYPOTHESIS. 088069 13-04
- ACTIONS OF DEXAMPHETAMINE AND AMPHETAMINE-LIKE AMINES IN CHICKENS WITH BRAIN TRANSECTIONS. 109194 13-03
- CHICKS  
EFFECTS OF METHAMPHETAMINE HYDROCHLORIDE ON IMPRINTING IN WHITE LEGHORN CHICKS. 079760 13-14
- BEHAVIOURAL EFFECTS OF D-AMPHETAMINE IN YOUNG CHICKS TREATED WITH P-CL-PHENYLALANINE. 103953 13-04
- CHILD  
CARDIAC ARRHYTHMIA IN A CHILD DUE TO CHLORAL HYDRATE INGESTION. 077912 13-15
- BLOOD LEVELS OF DIAZEPAM (VALIUM) AND N-DESMETHYLDIAZEPAM IN THE EPILEPTIC CHILD. A PRELIMINARY REPORT. 093821 13-13
- VITAMIN-B3 DEPENDENT CHILD. 098976 13-08
- OBSERVATIONS ABOUT THE USE OF PSYCHOPHARMACA IN CHILD PSYCHIATRY. 101076 13-17
- PRINCIPLES OF DRUG THERAPY IN CHILD PSYCHIATRY WITH SPECIAL REFERENCE TO STIMULANT DRUGS. 101214 13-17
- USE OF LYSERGIC ACID DIETHYLAMIDE IN CHILD PSYCHIATRY. 102838 13-12
- CHARACTEROPATHIC CHANGES AND EXPRESSIVE APHASIA IN A CHILD WITH CONGENITAL AGENESIS OF THE SEPTUM PELLUCIDUM. 122951 13-11
- ANTIANDROGEN THERAPY WITH CYPROTHERONE ACETATE IN CHILD AND ADOLESCENT PSYCHIATRY. AN OVERVIEW OF RESULTS ACHIEVED. 125703 13-11
- CHILDHOOD  
PHOTIC RESPONSES IN HYPERKINESIS OF CHILDHOOD. 106862 13-11
- IMIPRAMINE IN THE TREATMENT OF CHILDHOOD ENURESIS. 111658 13-11
- CHILDREN  
STUDY OF MOLINDONE IN DISTURBED PRESCHOOL CHILDREN. 074814 13-08
- PREDICTING THE RESPONSE OF CHILDREN WITH LEARNING DISABILITIES AND BEHAVIOR PROBLEMS TO DEXTROAMPHETAMINE SULFATE. 077911 13-11
- PILLS FOR LEARNING: DISPUTE FAILS TO HALT USE OF DRUGS TO CALM HYPERACTIVE CHILDREN. 078100 13-17
- ANXIOUS DEPRESSED ADULTS AND PROBLEM CHILDREN TREATED WITH THIORIDAZINE IN PRIVATE PRACTICE. 078943 13-10
- MANAGEMENT OF HYPERACTIVE BEHAVIOR IN CHILDREN. 080564 13-17

## Psychopharmacology Abstracts

- AN ADDITIONAL OBSERVATION ON METHYLPHENIDATE IN HYPERACTIVE CHILDREN. 085408 13-15
- ATTEMPTS AT TREATMENT WITH NEULEPTIL IN CHILDREN IN A SPECIAL INSTITUTE. 086593 13-11
- THE USE OF VALNOCTAMIDE IN THE TREATMENT OF CERTAIN BEHAVIOR DISORDERS IN CHILDREN. 086774 13-14
- THE EFFECTIVENESS OF METHYLPHENIDATE HYDROCHLORIDE (RITALIN) ON LEARNING AND BEHAVIOR IN PUBLIC SCHOOL EDUCABLE MENTALLY RETARDED CHILDREN. 087272 13-14
- ACUTE PHENOTHIAZINE INTOXICATION IN CHILDREN. 088512 13-15
- PANEL SANCTIONS AMPHETAMINES FOR HYPERKINETIC CHILDREN. 089087 13-14
- LEARNING DISORDERS, HYPERKINESIS, AND THE USE OF DRUGS IN CHILDREN. 095459 13-14
- PSYCHOPHARMACOLOGY IN CHILDREN: PROBLEM AREAS, METHODOLOGICAL CONSIDERATIONS, AND ASSESSMENT TECHNIQUES. 095541 13-11
- EEG AND BEHAVIORAL EFFECTS OF DRUG THERAPY IN CHILDREN. 095924 13-14
- EFFECTS OF 5-HTP ON SLEEP IN MONGOL CHILDREN: PRELIMINARY RESULTS. 098880 13-14
- THE EFFECT OF DRUGS ON HYPERACTIVITY IN CHILDREN WITH SOME OBSERVATIONS OF CHANGES IN MINERAL METABOLISM. 098894 13-14
- COGNITIVE STYLES IN HYPERACTIVE CHILDREN AND THE EFFECT OF METHYLPHENIDATE. 099939 13-11
- TREATMENT WITH DIPPERON IN AN OUTPATIENT DEPARTMENT FOR CHILDREN AND ADOLESCENTS. 100562 13-11
- DEXTROAMPHETAMINE RESPONSIVE BEHAVIOR DISORDER IN SCHOOL CHILDREN. 100813 13-14
- IMIPRAMINE IN PRESCHOOL AUTISTIC AND SCHIZOPHRENIC CHILDREN. 101536 13-11
- ATTENTION IN HYPERACTIVE CHILDREN AND THE EFFECT OF METHYLPHENIDATE (RITALIN). 101643 13-11
- EFFECT OF LITHIUM CARBONATE, PLACEBO, AND THIORIDAZINE ON HYPERACTIVE CHILDREN. 101684 13-11
- THE USE OF D-AMPHETAMINE WITH HYPERKINETIC CHILDREN. 102187 13-14
- TREATING HYPERACTIVE CHILDREN. 102612 13-17
- ON THE PHARMACOTHERAPY OF EPILEPSY IN CHILDREN. 102826 13-17
- PLAYROOM OBSERVATIONS OF HYPERACTIVE CHILDREN ON MEDICATION. 106308 13-11
- TREATMENT OF PAVOR-NOCTURNUS AND SOMNAMBULISM IN CHILDREN. 106954 13-11
- ANTIDEPRESSANT OVERDOSAGE IN CHILDREN - A NEW MENACE. 108014 13-15
- THE EFFECT OF METHYLPHENIDATE ON BEHAVIOR OF THREE SCHOOL CHILDREN: A PILOT INVESTIGATION. 108231 13-11
- TREATMENT OF PERSISTENT MENTAL CHANGES IN CHILDREN WITH EPILEPSY. 109947 13-14
- THE EFFECT OF METHYLPHENIDATE ON ATTENTIVE BEHAVIOR AND AUTONOMIC ACTIVITY IN HYPERACTIVE CHILDREN. 111147 13-14
- SINGLE SUBJECT DESIGNS FOR ASSESSMENT OF PSYCHOTROPIC DRUG EFFECTS IN CHILDREN. 112085 13-14
- LONG-TERM EFFECTS OF HALOPERIDOL ON SEVERELY EMOTIONALLY DISTURBED CHILDREN. 118717 13-11
- OBSERVATIONS ON THE EFFECT OF TEGRETOL IN SALAAM SEIZURES IN CHILDREN. 123890 13-07
- THE EFFECT OF STIMULANT DRUGS ON HUMAN FIGURE DRAWINGS IN CHILDREN WITH MINIMAL BRAIN DYSFUNCTION. 125254 13-14
- DOUBLE-BLIND STUDY OF THE OREXIGENIC EFFECT OF A SEROTONIN INHIBITOR IN ANOREXIC CHILDREN. 125289 13-13

- CHIMPANZEES**  
EFFECTS OF MARIHUANA EXTRACT ON THE OPERANT BEHAVIOR OF CHIMPANZEES. 107628 13-04
- CHLORAL**  
EFFECTS OF CHLORAL HYDRATE, PARALDEHYDE, AND ETHANOL ON THE METABOLISM OF (14C) SEROTONIN IN THE RAT. 077868 13-03  
CARDIAC ARRHYTHMIA IN A CHILD DUE TO CHLORAL HYDRATE INGESTION. 077912 13-15
- CHLORCYCLIZINE**  
MECHANISM OF CIRCULATORY EFFECTS OF CHLORCYCLIZINE. 099650 13-03
- CHLORDIAZEPOXIDE**  
THE EFFECT OF SOLVENTS ON THE POTENCY OF CHLORDIAZEPOXIDE, DIAZEPAM, MEDAZEPAM AND NITRAZEPAM. 077908 13-02  
CHLORDIAZEPOXIDE AND AVERSIVE CONDITIONING: EFFECTS OF ACQUISITION AND PERFORMANCE OF THE CONDITIONED NICITATING MEMBRANE RESPONSE IN THE RABBIT. 078527 13-04  
PREDICTORS OF CHLORDIAZEPOXIDE RESPONSE IN ANXIETY. 079432 13-10  
FACILITATION AND IMPAIRMENT OF AVOIDANCE RESPONDING BY PHENOBARBITAL SODIUM, CHLORDIAZEPOXIDE AND DIAZEPAM - THE ROLE OF PERFORMANCE BASE LINES. 082881 13-04  
EFFECT OF CHLORDIAZEPOXIDE ON STRESS IN RATS. 089136 13-03  
COMPARISON OF CHLORDIAZEPOXIDE AMITRIPTYLINE COMBINATION WITH AMITRIPTYLINE ALONE IN ANXIETY DEPRESSIVE STATES. 102215 13-10  
INFLUENCE OF CHLORDIAZEPOXIDE ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBAL FOCI. 104376 13-03  
EFFECTS OF NICOTINE, NICOTINE MONOMETHYLIDE, LOBELINE, CHLORDIAZEPOXIDE, MEPROBAMATE AND CAFFEINE ON A DISCRIMINATION TASK IN LABORATORY RATS. 104433 13-04  
BEHAVIOUR OF UNTREATED MICE TO ALCOHOL OR CHLORDIAZEPOXIDE TREATED PARTNERS. 105996 13-04  
ALCOHOL AND THE BENZODIAZEPINES: THE INTERACTION BETWEEN INTRAVENOUS ETHANOL AND CHLORDIAZEPOXIDE AND DIAZEPAM. 106136 13-13  
EFFECTS OF HALOPERIDOL, TRIFLUOPERIDOL, NITRAZEPAM AND CHLORDIAZEPOXIDE UPON CONDITIONED MIDBRAIN BEHAVIORAL RESPONSES. 106394 13-04  
EFFECTS OF CHLORDIAZEPOXIDE AND DIAZEPAM ON RESPIRATION AND OXIDATIVE PHOSPHORYLATION IN RAT BRAIN MITOCHONDRIA. 108284 13-03  
EXTINCTION OF FEAR II: EFFECTS OF CHLORDIAZEPOXIDE AND CHLORPROMAZINE ON FEAR AND EXPLORATORY BEHAVIOUR IN RATS. 110177 13-04  
EXPERIMENTAL CHARACTERISTICS OF SOME MANIFESTATIONS COMMON TO THE WITHDRAWAL SYNDROME FOLLOWING DISCONTINUANCE OF LONG-TERM ADMINISTRATION OF DIAZEPAM AND CHLORDIAZEPOXIDE. 111134 13-04  
EFFECTS OF DRUG STATE CHANGES UPON TWO-WAY SHUTTLE AVOIDANCE RESPONSES IN RATS, TREATED WITH CHLORDIAZEPOXIDE OR PLACEBO. 117747 13-04  
BIOLOGICAL HALF-LIFE OF CHLORDIAZEPOXIDE AND ITS METABOLITE, DEMOXEPAM, IN MAN. 120828 13-13  
EFFECTS OF CHLORDIAZEPOXIDE ON DEPRESSED PERFORMANCE AFTER REWARD REDUCTION. 125164 13-04  
SEPARATION OF THE EFFECTS OF MAGNESIUM PEMOLINE ON AVOIDANCE LEARNING AND MEMORY FROM ITS CENTRAL NERVOUS SYSTEM STIMULANT PROPERTIES BY CHLORDIAZEPOXIDE. 125410 13-04  
TREATMENT OF STATUS-EPILEPTICUS WITH INTRAVENOUS CHLORDIAZEPOXIDE (LIBRIUM). 125574 13-14
- CHLORIDE**  
EFFECT OF AMMONIUM CHLORIDE ON THE POTENTIATION OF AMPHETAMINE BY PSYCHOTROPIC DRUGS IN THE RAT. 082793 13-03  
THE EFFECT OF 5-HYDROXYTRYPTOPHAN AND RESERPINE ADMINISTRATION ON THE LEVEL OF SODIUM, POTASSIUM, CALCIUM, MAGNESIUM AND CHLORIDE IN FIVE DISCRETE AREAS OF THE RABBIT BRAIN. 088665 13-03
- PLASMA AND BRAIN LITHIUM LEVELS AFTER LITHIUM CARBONATE AND LITHIUM CHLORIDE ADMINISTRATION BY DIFFERENT ROUTES IN RATS. 099852 13-03  
RUBIDIUM CHLORIDE INGESTION BY VOLUNTEER SUBJECTS: INITIAL EXPERIENCE. 104438 13-07  
EFFECTS OF INTRAPERITONEAL INJECTIONS OF LITHIUM CHLORIDE ON THE ENTRY OF RADIOACTIVE CARBON ATOMS OF GLUCOSE AND AMINO ACIDS INTO MOUSE BRAIN AND OTHER TISSUES. 106524 13-03  
REVERSAL OF CHLORPROMAZINE INDUCED HYPOTENSION BY CALCIUM CHLORIDE IN DOGS. 119691 13-04
- CHLORIMIPRAMINE**  
CHLORIMIPRAMINE IN OBSESSIVE STATES. 103625 13-10  
THERAPEUTIC EXPERIENCE WITH CHLORIMIPRAMINE INJECTIONS. 105836 13-09
- CHLORMETHIAZOLE**  
WITHDRAWAL DELIRIUM IN CHLORMETHIAZOLE ADDICTION. 126041 13-15
- CHLOROBENZYL OXY**  
SOME BIOCHEMICAL AND PHARMACOLOGICAL ACTIONS OF (-)ERYTHRO-META-(META CHLOROBENZYL OXY) 2 (1-AMINOETHYL) BENZYL ALCOHOL: A DERIVATIVE OF METARAMINOL. 101702 13-03
- CHLORPROMAZINE**  
SELF-STARVATION AND REWARDING BRAIN STIMULATION: EFFECTS OF CHLORPROMAZINE AND PENTOBARBITAL. 075046 13-04  
STIMULUS SIGNIFICANCE AND CHLORPROMAZINE INDUCED IMPAIRMENT OF AVOIDANCE LEARNING IN MICE. 082759 13-04  
INHIBITION OF NOREPINEPHRINE BIOSYNTHESIS BY CHLORPROMAZINE IN THE GUINEA-PIG VAS-DEFERENS. 082784 13-03  
CLOMACRAN AND CHLORPROMAZINE IN PSYCHOTIC OUTPATIENTS: A CONTROLLED STUDY. 086521 13-08  
CHLORPROMAZINE: CONCENTRATIONS IN PLASMA, EXCRETION IN URINE AND DURATION OF EFFECT. 086531 13-13  
URINARY EXCRETION OF CHLORPROMAZINE AND CHLORPROMAZINE SULFOXIDE IN FOUR PATIENTS ON DIFFERENT DAYS. 086576 13-13  
STIMULUS SIGNIFICANCE AND CHLORPROMAZINE EFFECTS ON THE EXPRESSION OF AVOIDANCE LEARNING IN MICE. 086900 13-04  
PHARMACOLOGY OF CHLORPROMAZINE: CLINICAL STUDIES. 087364 13-13  
THE EFFECTS OF EPINEPHRINE AND CHLORPROMAZINE ON VISUAL CLIFF BEHAVIOR IN HOODED AND ALBINO RATS. 088070 13-04  
EFFECTS OF CHLORPROMAZINE ON CELL WALL BIOSYNTHESIS AND INCORPORATION OF OROTIC ACID INTO NUCLEIC ACIDS IN *BACILLUS-MEGATERIUM*. 088517 13-03  
METABOLISM OF CHLORPROMAZINE AND P-NITROBENZOIC ACID IN THE LIVER, INTESTINE AND KIDNEY OF THE HUMAN FETUS. 088540 13-13  
IN VITRO EFFECTS OF CHLORPROMAZINE AND MEPROBAMATE ON BLAST TRANSFORMATION AND CHROMOSOMES. 088626 13-03  
THE INFLUENCE OF HYPOTHERMIA ON CHLORPROMAZINE INDUCED METABOLIC CHANGES IN MOUSE HEART AND BRAIN. 088641 13-03  
RHE EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CHLORPROMAZINE ON THE ACQUISITION AND EXTINCTION OF POSITIVELY REINFORCED OPERANT RESPONSES. 088679 13-04  
SUPPRESSION OF HIPPOCAMPAL DFP DISCHARGES BY CHLORPROMAZINE, IMIPRAMINE AND DESIPRAMINE. 088733 13-03  
THE EFFECTS OF CENTRALLY ADMINISTERED CHLORPROMAZINE ON TEMPERATURE REGULATION IN THE HAMSTER. 089098 13-03  
LONG-TERM EVOLUTION OF THE SIDE-EFFECT LENS OPACITIES INDUCED BY CHLORPROMAZINE PROLONGED THERAPY. 089189 13-15  
NOR2-CHLORPROMAZINE SULFOXIDE, A PINK-SPOT PRODUCED IN VIVO AND IN VITRO FROM CHLORPROMAZINE. 089324 13-03  
TOXIC PSYCHOSIS INDUCED BY HIGH-DOSAGE CHLORPROMAZINE THERAPY. 089350 13-15  
EFFECT OF AMINOGLUANIDINE, CHLORPROMAZINE AND NSD-1055 ON GASTRIC SECRETION AND ULCERATION IN THE SHAY RAT. 089442 13-03

# Subject Index

# Psychopharmacology Abstracts

VOLU

A C

CHOIC

CO

CHOL

CH

EF

TI

II

CHOL

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

A

- CHLORPROMAZINE AND SLEEP IN PSYCHIATRIC PATIENTS. 090929 13-14
- THE EFFECTS OF CHLORPROMAZINE AND D-AMPHETAMINE ON THE ACQUISITION AND PERFORMANCE OF A CONDITIONED ESCAPE RESPONSE IN RATS. 091532 13-03
- THE EFFECTS OF MORPHINE, PENTOBARBITAL AND CHLORPROMAZINE ON BIOELECTRICAL POTENTIALS EVOKED IN THE BRAIN STEM OF THE CAT BY ELECTRICAL STIMULATION OF THE GINGIVA AND TOOTH PULP. 094254 13-05
- SYNTHESIS OF POSSIBLE METABOLITES OF CHLORPROMAZINE: IV. 7-HYDROXY-NOR1- AND NOR2-CHLORPROMAZINE SULFOXIDE. 094791 13-01
- COMPARISON OF THIORIDAZINE TABLETS TO CHLORPROMAZINE SPANSULES IN THE MAINTENANCE CARE OF CHRONIC SCHIZOPHRENICS. 097554 13-07
- THE EFFECTS OF CHLORPROMAZINE ON SELF-PUNITIVE BEHAVIOR. 098483 13-04
- CHLORPROMAZINE REVERSAL OF THE ANTIHYPERTENSIVE ACTION OF GUANETHIDINE. 098750 13-13
- EVALUATION OF TRANQUILLISERS WITH SUBNORMAL PATIENTS: 2. PERICYZINE AND CHLORPROMAZINE. 099440 13-09
- CHLORPROMAZINE INDUCED HISTAMINE RELEASE AND LIPOLYSIS IN CANINE ADIPOSE TISSUE IN SITU. 099647 13-03
- A COMPARISON BETWEEN CHLORPROMAZINE AND THIOETHIXENE IN A VETERANS ADMINISTRATION HOSPITAL POPULATION. 099887 13-08
- COMPARISON OF THIORIDAZINE AND CHLORPROMAZINE IN DOCTORS CHOICE RESEARCH DESIGN. 100438 13-16
- POTENTIATION IN RATS OF BUFOFENIN INDUCED BEHAVIORAL CHANGES BY CHLORPROMAZINE. 101570 13-04
- ALCOHOL, THIORIDAZINE AND CHLORPROMAZINE EFFECTS ON SKILLS RELATED TO DRIVING BEHAVIOUR. 101615 13-14
- COMPARATIVE EFFECTS OF LITHIUM AND CHLORPROMAZINE IN THE TREATMENT OF ACUTE MANIC STATES. 101897 13-09
- EFFECTS OF AMPHETAMINE AND CHLORPROMAZINE ON SECOND-ORDER ESCAPE BEHAVIOR IN SQUIRREL MONKEYS. 102189 13-04
- GAS CHROMATOGRAPHIC ANALYSIS OF CHLORPROMAZINE AND ITS METABOLITES FORMED BY HEPATIC MICROSOMES - I. INFLUENCE OF MAGNESIUM. 102695 13-03
- EFFECTS OF CHLORPROMAZINE AND PROPRANOLOL ON LEFT VENTRICULAR SYSTOLIC PRESSURE, ECG, AND POTASSIUM ION EFFLUX IN THE ISOLATED PERFUSED RAT HEART. 103311 13-03
- EFFECT OF CHLORPROMAZINE, DESMETHYLIMIPRAMINE AND LITHIUM ON DOPAMINE UPTAKE IN THE RAT PANCREAS. 103312 13-03
- SOME CURRENT THOUGHTS ON LITHIUM CARBONATE IN MANIC-DEPRESSIVE ILLNESS BASED ON A DOUBLE-BLIND COMPARISON WITH CHLORPROMAZINE. 103627 13-09
- RADIOASSAY OF CHLORPROMAZINE AND ITS METABOLITES IN PLASMA. 104372 13-16
- EFFECT OF CHLORPROMAZINE ON CONDITIONED AVOIDANCE AS A FUNCTION OF CS-US INTERVAL LENGTH. 104579 13-04
- LYSERGIC ACID DIETHYLAMIDE, AMPHETAMINE AND CHLORPROMAZINE ON WATER MAZE DISCRIMINATION IN MICE. 104812 13-04
- INTERACTIONS BETWEEN NALOXONE AND CHLORPROMAZINE ON BEHAVIOR UNDER SCHEDULE CONTROL. 104826 13-03
- CHLORPROMAZINE AND HUMAN SLEEP. 105007 13-14
- ANALYSIS OF THE ACQUISITION AND EXTINCTION OF FOOD REINFORCED BEHAVIOR IN RATS AFTER THE ADMINISTRATION OF CHLORPROMAZINE. 105012 13-04
- CHLORPROMAZINE EFFECTS ON MACROMOLECULAR SYNTHESIS IN SYNCHRONIZED TETRAHYMENA. 105014 13-03
- A CONTROLLED STUDY OF LITHIUM VS. CHLORPROMAZINE IN ACUTE SCHIZOPHRENICS. 105885 13-08
- THE EFFECTS OF CHLORPROMAZINE ON FINE PSYCHOMOTOR PERFORMANCE WITH A SIMULTANEOUS SECONDARY TASK IN SCHIZOPHRENICS. 105926 13-08

- A COMPARISON OF LITHIUM CARBONATE AND CHLORPROMAZINE IN THE TREATMENT OF EXCITED SCHIZO-AFFECTIVES. (UNPUBLISHED PAPER). 106066 13-08
- CHLORPROMAZINE METABOLISM IN CHRONIC SCHIZOPHRENICS. 107592 13-14
- CHLORPROMAZINE INDUCED HYPOTHERMIA AND INCREASED PLASMA CREATINE PHOSPHOKINASE ACTIVITY. 108280 13-03
- CHLORPROMAZINE ADSORPTION TO BRAIN REGIONS. 108396 13-03
- INDUCED FORMATION OF PHENYLALANINE AMMONIA LYASE AND PISATIN BY CHLORPROMAZINE AND OTHER PHENOTHIAZINE DERIVATIVES. 108716 13-17
- DIFFERENT EFFECT OF CHLORPROMAZINE ON THE ACTIVITY OF CRYSTALLINE LACTIC DEHYDROGENASE ISOENZYMES. 108717 13-03
- INHIBITORY EFFECT OF CHLORPROMAZINE ON THE SYNDROME OF HYPERACTIVITY PRODUCED BY L-TRYPTOPHAN OR 5-METHOXY-N,N-DIMETHYLTRYPTAMINE TREATED WITH A MONOAMINE OXIDASE INHIBITOR. 108795 13-03
- CHLORPROMAZINE STIMULATION AND L-DOPA SUPPRESSION OF PLASMA PROLACTIN IN MAN. 109042 13-13
- EXTINCTION OF FEAR II: EFFECTS OF CHLORDIAZEPOXIDE AND CHLORPROMAZINE ON FEAR AND EXPLORATORY BEHAVIOUR IN RATS. 110177 13-04
- EFFECT OF CHLORPROMAZINE ON RENAL FUNCTION. 111129 13-05
- EFFECT OF ANTICHOLINESTERASE SUBSTANCES ON CHANGES OF CONDITIONED REFLEXES INDUCED BY CHLORPROMAZINE. 111133 13-04
- THE EFFECTS OF NALOXONE, CHLORPROMAZINE, AND HALOPERIDOL PRETREATMENT ON LEVALLORPHAN INDUCED DISRUPTION OF RATS OPERANT BEHAVIOR. 111445 13-04
- EFFECT OF TRIPHTHASINE AND CHLORPROMAZINE ON NORADRENALINE AND ATP CONCENTRATION IN THE GRANULATION AND SUPERNATANT FRACTIONS OF THE BRAIN STEM. 111293 13-03
- EFFECT OF CHLORPROMAZINE AND PHENAMINE ON THE BASAL METABOLISM AND CONDITIONED REFLEX ACTIVITY IN RATS UNDER STRESS CONDITIONS. 113521 13-03
- EFFECT OF CHLORPROMAZINE ON THE FUNCTION OF THE PERFUSED ISOLATED LIVER. 118569 13-05
- MYOCARDIAL INFARCTION FOLLOWING INTOXICATION WITH ETHANOL AND CHLORPROMAZINE. 118662 13-15
- REVERSAL OF CHLORPROMAZINE INDUCED HYPOTENSION BY CALCIUM CHLORIDE IN DOGS. 119691 13-04
- FUNCTIONAL INTERACTIONS BETWEEN ALDOLASE AND CHLORPROMAZINE. 119698 13-03
- EFFECT OF CHLORPROMAZINE ON RAT TISSUE UPTAKE OF 14C-3-O-METHYL-D-GLUCOSE. 120469 13-03
- EFFECTS OF CHLORPROMAZINE, DL-PROPRANOLOL, AND D-PROPRANOLOL IN THE ISOLATED RAT HEART: MODIFICATION OF THE RESPONSE TO ISOPRENALINE AND GLUCAGON. 120719 13-03
- CHLORPROMAZINE METABOLISM IN SHEEP. II. IN VITRO METABOLISM AND PREPARATION OF 3H-7-HYDROXYCHLORPROMAZINE. 121258 13-03
- EFFECTS OF NIGRAL LESION AND CHLORPROMAZINE TREATMENT ON TYROSINE HYDROXYLASE ACTIVITY IN CORPUS-STRIATUM OF THE RAT. 123281 13-03
- FACILITATING EFFECTS OF SOME CHLORPROMAZINE D-AMPHETAMINE MIXTURES ON AVOIDANCE LEARNING. 124107 13-04
- CHLORPROMAZINE-LIKE**  
NEUROPHARMACOLOGICAL PROPERTIES OF SU17595A, A CHLORPROMAZINE-LIKE CENTRAL NERVOUS SYSTEM DEPRESSANT. 098158 13-03
- CHLORPROTHIXENE**  
CHLORPROTHIXENE ENFORCED SLEEP FOR NEWLY ADMIPTED PATIENTS WITH ACUTE MENTAL DECOMPENSATION. 078951 13-14
- ACUTE EFFECT OF CHLORPROTHIXENE (5MG), CAFFEINE (200MG) AND THE COMBINATION OF BOTH DRUGS ON VERBAL ASSOCIATIONS. 105997 13-14
- THE EFFECT OF CHLORPROTHIXENE AND CAFFEINE ON THE CONDITIONED ALIMENTARY MOTOR REFLEXES IN CATS. 106002 13-04

- A COMPARISON OF CHLORPROTHIXENE AND HALOPERIDOL IN ACUTE SCHIZOPHRENIA. 108838 13-08
- CHOICE**
- COMPARISON OF THIORIDAZINE AND CHLORPROMAZINE IN DOCTORS CHOICE RESEARCH DESIGN. 100438 13-16
- CHOLINE**
- CHOLINE ACETYLTRANSFERASE AND ACETYLCHOLINESTERASE IN CULTURED BRAIN CELLS FROM CHICK EMBRYOS. 079663 13-03
- EFFECTS OF MORPHINE ON CHOLINE ACETYLTRANSFERASE LEVELS IN THE CAUDATE NUCLEUS OF THE RAT. 089050 13-03
- THE EFFECTS OF CHRONIC ADMINISTRATION OF SOME CHOLINERGIC AND ADRENERGIC DRUGS ON THE ACTIVITY OF CHOLINE ACETYLTRANSFERASE IN THE OPTIC LOBES OF THE CHICK BRAIN. 100219 13-03
- IN VIVO INCORPORATION OF LABELLED CHOLINE AND ACETYLCHOLINE IN THE VESICLES OF BRAIN NERVE ENDINGS. 123283 13-03
- CHOLINERGIC**
- ADRENERGIC CHOLINERGIC INVOLVEMENT IN MODULATION OF LEARNED BEHAVIOR. 086423 13-04
- MECHANISM OF THE ANTAGONISM BY 5-HYDROXYTRYPTAMINE OF THE TOXICITY DUE TO CERTAIN CHOLINERGIC BLOCKING AGENTS. 086898 13-03
- CHOLINERGIC AND NEUROLEPTIC INDUCED CATALEPSY: MODIFICATION BY LESIONS IN THE CAUDATE PUTAMEN. 086899 13-03
- SOME ACTIONS OF DELTA1-TETRAHYDROCANNABINOL AND CANNABIDIOL AT CHOLINERGIC JUNCTIONS. 087358 13-03
- CHOLINERGIC MECHANISM DETERMINES THE OCCURRENCE OF REWARD CONTINGENT POSITIVE VARIATION (RCPV) IN CAT. 086543 13-03
- CHOLINERGIC INFLUENCED NARCOSIS AND BRAIN ACETYLCHOLINE CONTENT OF MOUSE. 094258 13-03
- RELEARNING AT DIFFERENT TIMES AFTER TRAINING AS AFFECTED BY CENTRALLY AND PERIPHERALLY ACTING CHOLINERGIC DRUGS IN THE MOUSE. 097739 13-04
- THE INFLUENCE OF PHENELZINE ON THE TOXICITY OF CHOLINERGIC DRUGS MODIFIED BY RESERPINE. 098294 13-05
- THE INVOLVEMENT OF CENTRAL CHOLINERGIC MECHANISMS IN THE FORMATION AND INHIBITION OF CONDITIONAL REFLEXES IN RATS. 098295 13-04
- BEHAVIORAL EVIDENCE FOR TWO TYPES OF CHOLINERGIC RECEPTORS IN THE CNS. 099646 13-04
- THE EFFECTS OF CHRONIC ADMINISTRATION OF SOME CHOLINERGIC AND ADRENERGIC DRUGS ON THE ACTIVITY OF CHOLINE ACETYLTRANSFERASE IN THE OPTIC LOBES OF THE CHICK BRAIN. 100219 13-03
- CENTRAL CHOLINERGIC BLOCKADE AND TWO-WAY AVOIDANCE ACQUISITION: THE ROLE OF RESPONSE DISINHIBITION. 102097 13-04
- A BIPHASIC ACTION OF CENTRAL CHOLINERGIC STIMULATION ON BEHAVIORAL AROUSAL IN THE RAT. 104432 13-04
- CHOLINERGIC MECHANISMS AND AVOIDANCE BEHAVIOR ACQUISITION: EFFECTS OF NICOTINE IN MICE. 104462 13-04
- AN EVALUATION OF THE CONTRIBUTION OF CHOLINERGIC MECHANISM TO THIRST. 105346 13-04
- LEARNING IMPAIRMENT AFTER THREE CLASSES OF AGENTS WHICH MODIFY CHOLINERGIC FUNCTION. 106523 13-04
- THE EFFECTS OF CHOLINERGIC AGENTS UPON FIXATED BEHAVIOR. 110186 13-04
- THE INFLUENCE OF ANTIPARKINSON AGENTS UPON SUBNARCOTIC AND CHOLINERGIC POTENTIATION OF BARBITAL IN MICE. 122048 13-03
- CHOLINERGIC AND NEUROLEPTIC INDUCED CATALEPSY: MODIFICATION BY LESIONS IN THE GLOBUS-PALLIDUS AND SUBSTANTIA-NIGRA. 122542 13-03
- CHOLINESTERASE**
- STRUCTURE ACTIVITY RELATIONSHIPS OF NORMEPERIDINE CONGENERS ON CHOLINESTERASE SYSTEMS IN VITRO AND ANALGESIA IN VIVO. 086822 13-03
- SEX DIFFERENCES IN BRAIN DEOXYRIBONUCLEIC ACID AND CHOLINESTERASE ACTIVITY IN RATS. 089332 13-04
- CONSUMMATORY BEHAVIOR DURING TOLERANCE TO AND WITHDRAWAL FROM CHRONIC DEPRESSION OF CHOLINESTERASE ACTIVITY. 102094 13-04
- STIMULUS CONTROL DURING CHRONIC REDUCTION OF CHOLINESTERASE ACTIVITY. 102095 13-04
- EFFECTS OF CHOLINOLYTIC AGENTS ON BEHAVIOR FOLLOWING DEVELOPMENT OF TOLERANCE TO LOW CHOLINESTERASE ACTIVITY. 103949 13-04
- EFFECT OF ESERINE INJECTED INTRAVENTRICULARLY ON BEHAVIOR AND ON ACTIVITY OF CHOLINESTERASE IN SOME STRUCTURES OF THE CEREBRAL VENTRICLES OF THE CONSCIOUS CAT. 106424 13-04
- USE OF ONE OF THE CHOLINESTERASE REACTIVATORS, DIPYROXIME, FOR TREATMENT OF MENTAL PATIENTS. 113748 13-14
- CHOLINESTERASE ACTIVITY IN THE ERYTHROCYTES AND BLOOD PLASMA OF SCHIZOPHRENIC PATIENTS DURING TREATMENT WITH DIMETHYLOAMINOETHANOLIC ESTERS. 118204 13-08
- POTENTIATION OF BARBITAL NARCOSIS IN MICE BY CHOLINOMIMETICS AND CHOLINESTERASE BLOCKERS. 122047 13-03
- CHOLINOLYTIC**
- EFFECTS OF CHOLINOLYTIC AGENTS ON BEHAVIOR FOLLOWING DEVELOPMENT OF TOLERANCE TO LOW CHOLINESTERASE ACTIVITY. 103949 13-04
- CHOLINOMIMETICS**
- POTENTIATION OF BARBITAL NARCOSIS IN MICE BY CHOLINOMIMETICS AND CHOLINESTERASE BLOCKERS. 122047 13-03
- CHOREA**
- USE OF PYRIDOXINE IN CHOREA. 085692 13-15
- AMANTADINE AND HUNTINGTONS CHOREA. 102751 13-11
- CHOROID**
- THE UPTAKE OF MORPHINE BY THE CHOROID PLEXUS AND CEREBRAL CORTICAL SLICES OF ANIMALS CHRONICALLY TREATED WITH MORPHINE. 122543 13-03
- CHRONIC**
- REDUCTION OF CATECHOL-O-METHYLTRANSFERASE ACTIVITY BY CHRONIC L-DOPA THERAPY. 107995 13-15
- CHROMATOGRAPHIC**
- GAS CHROMATOGRAPHIC ANALYSIS OF CHLORPROMAZINE AND ITS METABOLITES FORMED BY HEPATIC MICROSOMES - I. INFLUENCE OF MAGNESIUM. 102695 13-03
- A SEARCH FOR UNCORRELATED THIN LAYER CHROMATOGRAPHIC SYSTEMS FOR THE IDENTIFICATION OF BASIC DRUGS. 115897 13-06
- THE CHROMATOGRAPHIC SEPARATION OF MIXTURES OF BENZODIAZEPINE DRUGS. 115898 13-06
- A NEW GAS CHROMATOGRAPHIC METHOD FOR THE DEMONSTRATION OF CANNABIS INTAKE BY ANALYSIS OF BIOLOGICAL FLUIDS. 123265 13-06
- CHROMATOGRAPHY**
- GAS CHROMATOGRAPHY MASS SPECTROMETRY OF NORTRIPTYLINE IN BODY FLUIDS OF MAN. 077931 13-16
- A NOVEL THIN LAYER CHROMATOGRAPHY SYSTEM FOR LYSERGIDE (LSD). 087118 13-06
- IDENTIFICATION OF BUFOTENIN IN TOAD BRAIN BY CHROMATOGRAPHY AND MASS SPECTROMETRY OF ITS DANS DERIVATIVE. 096685 13-03
- IDENTIFICATION OF (-)-DELTA-9-THC, TRANS-TETRAHYDROCANNABINOL AND TWO OF ITS METABOLITES IN RATS BY USE OF COMBINATION GAS CHROMATOGRAPHY MASS SPECTROMETRY AND MASS FRAGMENTOGRAPHY. 102733 13-03
- CHROMOSOMAL**
- CHROMOSOMAL ABERRATIONS IN USERS OF PSYCHOACTIVE DRUGS. 092717 13-14
- LSD IN PREGNANCY: CHROMOSOMAL EFFECTS. 099614 13-05
- CHROMOSOME**
- CHROMOSOME EXAMINATIONS IN PATIENTS ON LITHIUM CARBONATE. 090765 13-15
- CHROMOSOMES**
- LITHIUM, CHROMOSOMES, AND MITOTIC INDEX. 086926 13-15

# Subject Index

# Psychopharmacology Abstracts

VOLU

- IN VITRO EFFECTS OF CHLORPROMAZINE AND MEPROBAMATE ON BLAST TRANSFORMATION AND CHROMOSOMES. 088626 13-03
- CHRONIC DISCONTINUATION OF CHEMOTHERAPY FOR CHRONIC SCHIZOPHRENICS. 069197 13-08
- EFFECTS OF THIOPROPERAZINE ON THE URINARY EXCRETION AND CONCENTRATION IN THE CEREBROSPINAL FLUID OF 5-HYDROXYINDOLEACETIC ACID IN THE CHRONIC SCHIZOPHRENIC. 074835 13-13
- EVALUATION OF THE HYPNOTIC PROPERTIES OF PROMETHAZINE ON CHRONIC SCHIZOPHRENICS. 077430 13-08
- THE CLINICAL EFFECTS OF INTRAMUSCULAR THIOTHIXENE AND TRIFLUOPERAZINE IN CHRONIC SCHIZOPHRENIA: A COMPARATIVE STUDY. 077822 13-08
- AN EVALUATION OF METIAPINE IN CHRONIC SCHIZOPHRENIA. 077913 13-08
- EFFECTS OF CHRONIC AND ACUTE MORPHINE ADMINISTRATION ON ONE-WAY AVOIDANCE TRAINING. 079769 13-14
- CHRONIC DOPA TREATMENT. EFFECT ON THE CONCENTRATION OF NOREPINEPHRINE IN THE HEARTS AND BRAINS OF RATS. 083161 13-03
- CHANGES IN NOREPINEPHRINE TURNOVER IN RAT BRAIN DURING CHRONIC ADMINISTRATION OF IMIPRAMINE AND PROTRIPTYLINE: A POSSIBLE EXPLANATION FOR THE DELAY IN ONSET OF CLINICAL ANTIDEPRESSANT EFFECTS. 084251 13-03
- A CLINICAL STUDY WITH PROPERICAZINE IN CHRONIC PSYCHOTIC PATIENTS. 086895 13-11
- A CLINICAL TRIAL OF AN ANTISEROTONIN COMPOUND, CINANSERIN, IN CHRONIC SCHIZOPHRENIA. 086937 13-08
- EFFECT OF ACUTE AND CHRONIC ADMINISTRATION OF ETHANOL ON THE 5-HYDROXYTRYPTAMINE TURNOVER AND TRYPTOPHAN HYDROXYLASE ACTIVITY OF THE MOUSE BRAIN. 088284 13-03
- EFFECTS OF ACUTE AND CHRONIC AMPHETAMINE INTOXICATION ON BRAIN CATECHOLAMINES IN THE GUINEA-PIG. 088539 13-03
- EFFECTS OF ACUTE AND CHRONIC ETHANOL ADMINISTRATION ON RIBOSOMAL PROTEIN SYNTHESIS IN MOUSE BRAIN AND LIVER. 088558 13-03
- A DEVICE FOR THE CHRONIC INTRAVENTRICULAR INFUSION IN FREELY MOVING RATS. 088576 13-06
- RHE EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CHLORPROMAZINE ON THE ACQUISITION AND EXTINCTION OF POSITIVELY REINFORCED OPERANT RESPONSES. 088679 13-04
- COMPARISON BETWEEN ACUTE AND CHRONIC ADMINISTRATION OF ETHYL-ALCOHOL ON THE DEVELOPMENT OF TOLERANCE TO PENTOBARBITAL. 088732 13-03
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: A STUDY OF THE ADRENOCORTICAL RESPONSE TO INTRAVENOUSLY ADMINISTERED INSULIN AND ACTH. 091370 13-08
- CHANGES IN REM SLEEP OF CHRONIC ANXIOUS DEPRESSED PATIENTS GIVEN ALPHA-METHYL-P-TYROSINE (UNPUBLISHED) PAPER. 093260 13-10
- MODE OF ACTION OF D-PENICILLAMINE IN CHRONIC SCHIZOPHRENIA. 095150 13-08
- EFFECT OF CHRONIC METHAMPHETAMINE INTOXICATION IN RHESUS MONKEYS. 097456 13-04
- COMPARISON OF THIORIDAZINE TABLETS TO CHLORPROMAZINE SPANSULES IN THE MAINTENANCE CARE OF CHRONIC SCHIZOPHRENICS. 097554 13-07
- ACTIONS OF MORPHINE AND NARCOTIC ANTAGONIST ANALGESICS ON THE SPINAL CORD OF ACUTE AND CHRONIC SPINAL RATS. 098305 13-03
- COMBINED INTRAMUSCULAR ADMINISTRATION OF DEPOIT FLUPHENAZINE AND BENZTROPINE MESYLATE IN CHRONIC SCHIZOPHRENIC PATIENTS. 098602 13-08
- A PILOT STUDY OF GP-45795 IN CHRONIC SCHIZOPHRENICS. 098603 13-08
- PIMOZIDE IN CHRONIC SCHIZOPHRENIC PATIENTS. 098613 13-08
- TRIFLUOPERIDOL IN CHRONIC MALE PSYCHIATRIC PATIENTS. 098731 13-14
- A CLINICAL TRIAL OF SCH-12041 WITH CHRONIC ALCOHOLIC PATIENTS. 099156 13-07
- PERSISTENT INCREASE IN BRAIN SEROTONIN TURNOVER AFTER CHRONIC ADMINISTRATION OF LSD IN THE RAT. 099828 13-03
- THE EFFECTS OF CHRONIC ADMINISTRATION OF SOME CHOLINERGIC AND ADRENERGIC DRUGS ON THE ACTIVITY OF CHOLINE ACETYLTRANSFERASE IN THE OPTIC LOBES OF THE CHICK BRAIN. 100219 13-03
- TREATMENT OF ALCOHOLIC WITHDRAWAL IN THE CHRONIC ALCOHOLIC PATIENT. 100412 13-14
- THE USE OF CYCLANDELTATE IN CHRONIC BRAIN SYNDROME WITH ARTERIOSCLEROSIS. 100536 13-11
- INCREASE OF ETHANOL, MEPROBAMATE AND PENTOBARBITAL METABOLISM AFTER CHRONIC ETHANOL ADMINISTRATION IN MAN AND IN RATS. 100792 13-13
- A DOUBLE-BLIND CONTROLLED TRIAL OF THIOTHIXENE AND PERPHENAZINE IN CHRONIC SCHIZOPHRENICS SHOWN TO REQUIRE MAINTENANCE THERAPY. 100807 13-08
- INHIBITION OF NORMAL GROWTH BY CHRONIC ADMINISTRATION OF DELTA9-TETRAHYDROCANNABINOL. 101935 13-05
- CONSUMMATORY BEHAVIOR DURING TOLERANCE TO AND WITHDRAWAL FROM CHRONIC DEPRESSION OF CHOLINESTERASE ACTIVITY. 102094 13-04
- STIMULUS CONTROL DURING CHRONIC REDUCTION OF CHOLINESTERASE ACTIVITY. 102095 13-04
- EFFECTS OF CHRONIC ADMINISTRATION OF NICOTINE ON DRUG-INDUCED HYPNOSIS IN MICE. 102188 13-04
- CLINICAL AND ERGOTHERAPEUTIC EVALUATION OF FLUSPIRILENE (R-6218), A LONG-ACTING INJECTABLE NEUROLEPTIC, IN CHRONIC PSYCHOTIC PATIENTS. 102577 13-07
- BIOCHEMICAL STUDIES OF CEREBRAL SUBFRACTIONS AFTER CHRONIC ADMINISTRATION OF PYRIDAZINE (N MORPHOLINE 3-ETHYLAMINE 4-PHENYL 6-PYRIDAZINE HYDROCHLORIDE, AG-620). 102694 13-03
- EFFECTS OF CHRONIC TRIFLUOPERAZINE ADMINISTRATION IN MULTIPLE DOSAGES ON RAT OFFSPRING BEHAVIOR. 102824 13-04
- NICOTINIC ACID AND NICOTINAMIDE IN THE TREATMENT OF CHRONIC SCHIZOPHRENIA. 102833 13-08
- CLINICAL TOXICOLOGICAL AND ELECTROENCEPHALOGRAPHIC STUDY WITH SCH-12679 IN CHRONIC SCHIZOPHRENICS. 103325 13-07
- EVALUATION OF CLINICAL EFFICACY OF PIMOZIDE AS MAINTENANCE THERAPY IN CHRONIC SCHIZOPHRENIC PATIENTS. 103326 13-07
- A PILOT STUDY OF PIMOZIDE IN CHRONIC SCHIZOPHRENIC PATIENTS. 103327 13-07
- ACQUISITION OF NEW RESPONSES BY RATS DURING CHRONIC DEPRESSION OF ACETYLCHOLINESTERASE ACTIVITY. 103461 13-04
- EXPLORATORY BEHAVIOR IN CHRONIC DISULFOTON POISONING IN MICE. 104136 13-04
- CROSS-GENERATIONAL EFFECTS RESULTING FROM AN EARLY MATERNAL CHRONIC DRUG EXPERIENCE. 104173 13-04
- EFFECT OF CHRONIC ADMINISTRATION OF NICOTINE ON THE CONCENTRATIONS OF ADRENAL ENZYMES INVOLVED IN THE SYNTHESIS AND METABOLISM OF ADRENALINE. 104535 13-03
- THE EFFECTS OF CHRONIC DOSES OF TRICYANOAMINOPROPENE ON WATER CONSUMPTION IN THE RAT. 105078 13-04
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA. 105600 13-08
- FLUPHENAZINE ENANTHATE IN THE TREATMENT OF CHRONIC PSYCHOTIC PATIENTS: A CONTROLLED CLINICAL STUDY. 105673 13-08
- INFLUENCE OF A CHRONIC TREATMENT ON THE DISTRIBUTION OF AMITRIPTYLINE AND METABOLITES IN RABBIT BRAIN. 105708 13-03
- CLINICAL EXPERIENCE WITH FLUPENTHIXOL IN THE TREATMENT OF CHRONIC SCHIZOPHRENIA. 105930 13-08
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: CHANGES IN THE DIURNAL RHYTHM AND PSYCHIATRIC MENTAL STATUS ON WITHDRAWAL OF DRUGS. 106050 13-08
- TRYPTOPHAN PYRROLASE ACTIVITY AFTER CHRONIC ADMINISTRATION OF RESERPINE AND APOMORPHINE IN RATS. 106096 13-03

- CHLORPROMAZINE METABOLISM IN CHRONIC SCHIZOPHRENICS.**  
THE PSYCHOLOGICAL EFFECTS OF PROPRANOLOL IN THE ABSTINENCE PHASE OF CHRONIC ALCOHOLICS. 107592 13-14
- BEHAVIOR AND BRAIN CONTENTS OF CATECHOLAMINES IN MICE DURING CHRONIC ADMINISTRATION OF METHYLDOPA.** 107596 13-11
- DIABETES IN CHRONIC SCHIZOPHRENIA.** 107964 13-04
- ACCIDENTAL CONDITIONING WITH CHRONIC METHAMPHETAMINE INTOXICATION. IMPLICATIONS FOR A THEORY OF DRUG HABITUATION.** 108704 13-15
- THE EFFECTS OF CHRONIC ADMINISTRATION OF ETHANOL ON STARTLE THRESHOLDS IN RATS.** 110187 13-04
- ADRENERGIC EFFECT OF CHRONIC ADMINISTRATION OF NEUROLEPTICS AND ANTIDEPRESSANTS ON A MODEL OF APOMORPHINE INDUCED STEREOTYPY.** 110205 13-04
- METIAPINE, A DOUBLE-BLIND EVALUATION IN CHRONIC SCHIZOPHRENIC PATIENTS.** 111135 13-04
- A PILOT STUDY OF AL-1612 IN CHRONIC SCHIZOPHRENICS.** 117022 13-08
- ACCUMULATION OF METABOLITES DURING CHRONIC APPLICATION OF THE NEUROLEPTIC DRUG PERAZINE TO RATS.** 117024 13-08
- EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CANNABIS-SATIVA AND (-)-DELTA9-TRANS-TETRAHYDROCANNABINOL ON THE BEHAVIOR OF RATS IN AN OPEN-FIELD ARENA.** 123268 13-03
- CARDIOVASCULAR EFFECTS OF CHRONIC RESERPINE ADMINISTRATION IN MONGREL DOGS.** 125251 13-04
- CHRONICALLY**  
PLASMA MAGNESIUM CONCENTRATION AND URINARY MAGNESIUM EXCRETION IN RATS TREATED CHRONICALLY WITH MORPHINE. 125650 13-03
- EVALUATION OF PYROVALERONE IN CHRONICALLY FATIGUED VOLUNTEERS.** 099801 13-03
- THE EFFECTS OF ESERINE AND ATROPINE ON THE EPILEPTIFORM ACTIVITY OF CHRONICALLY ISOLATED CORTEX.** 102350 13-14
- EFFECTS OF SOME SYMPATHOMIMETIC DRUGS AND THEIR ANTAGONIST ON AFTERDISCHARGES ELICITED IN CHRONICALLY ISOLATED SLABS OF CEREBRAL CORTEX.** 106065 13-03
- THE UPTAKE OF MORPHINE BY THE CHOROID PLEXUS AND CEREBRAL CORTICAL SLICES OF ANIMALS CHRONICALLY TREATED WITH MORPHINE.** 108793 13-03
- CIGARETTE**  
CIGARETTE DEPENDENCE: I - NATURE AND CLASSIFICATION. 122543 13-03
- CINANSERIN**  
A CLINICAL TRIAL OF AN ANTISEROTONIN COMPOUND, CINANSERIN, IN CHRONIC SCHIZOPHRENIA. 091779 13-14
- CLINICAL AND ELECTROENCEPHALOGRAPHIC EFFECTS OF CINANSERIN IN SCHIZOPHRENIC AND MANIC PATIENTS.** 086937 13-08
- CINGULATE**  
EFFECTS OF SEPTAL AREA AND CINGULATE CORTEX LESIONS ON OPIATE ADDICTION BEHAVIOR IN RATS. 088153 13-07
- CINNARIZINE**  
A REEVALUATION OF CINNARIZINE WITH GERIATRIC INPATIENTS. 085333 13-04
- CIRCADIAN**  
COMPARISON OF THE EFFECTS OF CYCLAZOCINE AND IMIPRAMINE ON THE CIRCADIAN SLEEP WAKING CYCLE OF THE CAT. 098229 13-14
- CIRCULAR**  
CASE OF THE CIRCULAR FORM OF CYCLOPHRENIA TREATED WITH LITHIUM CARBONATE FOR A PERIOD OF 4 YEARS. 121220 13-05
- CIRCULATION**  
THE EFFECT OF INTRAVENOUS ETHYL-ALCOHOL ON THE CORONARY CIRCULATION AND MYOCARDIAL CONTRACTILITY OF THE HUMAN AND CANINE HEART. 118218 13-09
- INCREASED RATE OF NORADRENALINE CIRCULATION IN THE HYPOTHALAMUS AFTER DEMYELINATION OF THE ADRENAL GLANDS.** 087032 13-13
- 111704 13-03**
- CIRCULATORY**  
MECHANISM OF CIRCULATORY EFFECTS OF CHLORCYCLIZINE. 099650 13-03
- CITRATE**  
EFFECT OF LITHIUM CITRATE ON ADRENOCORTICAL ACTIVITY IN MANIC-DEPRESSIVE ILLNESS. 100317 13-09
- CITRATED**  
CITRATED CALCIUM CARBIMIDE/ALCOHOL REACTION - ITS SEVERITY AND EFFECTIVENESS AS A DETERRENT. 103099 13-11
- CL-67772**  
CL-67772: A PRELIMINARY EVALUATION OF A POTENTIAL ANTIDEPRESSANT COMPOUND: ANIMAL AND HUMAN CORRELATIONS. 108693 13-11
- CLASS**  
DRUG EFFECTS ON DISTRESS-EVOKED BEHAVIOR IN MICE: METHODOLOGY AND DRUG CLASS COMPARISONS. 104137 13-04
- CLASSES**  
LEARNING IMPAIRMENT AFTER THREE CLASSES OF AGENTS WHICH MODIFY CHOLINERGIC FUNCTION. 106523 13-04
- CLASSIFICATION**  
MOTOR DISORDERS INDUCED BY NEUROLEPTICS: A PROPOSED NEW CLASSIFICATION. 088201 13-15
- CIGARETTE DEPENDENCE: I - NATURE AND CLASSIFICATION.** 091779 13-14
- ENDOGENOUS DEPRESSIONS WITH AND WITHOUT DISTURBANCES IN THE 5-HYDROXYTRYPTAMINE METABOLISM: A BIOCHEMICAL CLASSIFICATION** 104832 13-13
- CLAVICEPS-PASPALI**  
THE VIOLET PIGMENT OF LYSERGIC ACID ALKALOID PRODUCING CULTURES OF CLAVICEPS-PASPALI: FERRIC COMPLEX OF 2,3 DIHYDROXYBENZOIC ACID. 100171 13-01
- CLEARANCE**  
RENAL LITHIUM ELIMINATION IN MANIC-DEPRESSIVE PATIENTS - INITIAL EXCRETION AND CLEARANCE. 087000 13-13
- CLIFF**  
THE EFFECTS OF EPINEPHRINE AND CHLORPROMAZINE ON VISUAL CLIFF BEHAVIOR IN HOODED AND ALBINO RATS. 088070 13-04
- CLIFF JUMPING IN RATS AFTER INTRAVENOUS TREATMENT WITH APOMORPHINE.** 125167 13-04
- CLIMACTERIUM**  
HORMONE THERAPY DURING THE CLIMACTERIUM. 089216 13-11
- CLINIC**  
EXPERIENCE WITH LITHIUM PROPHYLAXIS OF RECURRENT EMOTIONAL DISORDERS IN A PSYCHIATRIC OUTPATIENTS CLINIC. 089129 13-17
- DRUG, DOCTOR WARMAH, AND CLINIC SETTING IN THE SYMPTOMATIC RESPONSE TO MINOR TRANQUILIZERS.** 104143 13-10
- LIDANIL - A NEW TRANQUILIZING AGENT IN THE CLINIC OF INTERNAL DISEASES.** 110474 13-07
- CLINICAL**  
CLINICAL EXPERIENCE WITH PIMOZIDE. 074815 13-07
- DOXEPIN IN THE TREATMENT OF PSYCHONEUROTIC PATIENTS: A COMPARISON BETWEEN TWO CLINICAL SETTINGS.** 077431 13-14
- A RECENT CLINICAL TRIAL WITH DOGMATIL.** 077703 13-07
- THE CLINICAL EFFECTS OF INTRAMUSCULAR THIOTHIXEME AND TRIFLUOPERAZINE IN CHRONIC SCHIZOPHRENIA: A COMPARATIVE STUDY.** 077822 13-08
- PROPHYLACTIC LITHIUM THERAPY: SOME CLINICAL APPLICATIONS.** 077867 13-09
- A CLINICAL COMPARISON OF MOLINDONE HYDROCHLORIDE WITH TRIFLUOPERAZINE IN PSYCHOTIC OUTPATIENTS.** 078941 13-08
- THE PHARMACOLOGIST - CLINICAL INVESTIGATOR DIALOGUE IN EVALUATION OF NEW PSYCHOTHERAPEUTIC DRUGS.** 078956 13-07
- THE SEROTONIN CATECHOLAMINE - DREAM BICYCLE: A CLINICAL STUDY (UNPUBLISHED PAPER).** 085951 13-13
- CHANGES IN NOREPINEPHRINE TURNOVER IN RAT BRAIN DURING CHRONIC ADMINISTRATION OF IMIPRAMINE AND PROTRIPTYLINE: A**

# Subject Index

# Psychopharmacology Abstracts

VOLU

- POSSIBLE EXPLANATION FOR THE DELAY IN ONSET OF CLINICAL ANTIDEPRESSANT EFFECTS. 086251 13-03
- DOUBLE-BLIND CLINICAL STUDY COMPARING DOXEPIN AND IMIPRAMINE IN DEPRESSION. 086522 13-09
- PLASMA DRUG CONCENTRATION AND CLINICAL EFFECT. 086529 13-13
- DRUG PLASMA LEVELS AND CLINICAL EFFECT. 086532 13-16
- A CLINICAL STUDY WITH PROPERICIAZINE IN CHRONIC PSYCHOTIC PATIENTS. 086895 13-11
- CLINICAL TRIAL OF IMIDAZOLINE (DH-524) AS AN ANTIDEPRESSANT. 086896 13-07
- A CLINICAL TRIAL OF AN ANTISEROTONIN COMPOUND, CINANSERIN, IN CHRONIC SCHIZOPHRENIA. 086937 13-08
- DOUBLE-BLIND STUDY ON THE CORRELATIONS OF URINARY ELIMINATION OF CATECHOLAMINES AND THEIR METABOLITES (SUPPOSED TO COME THROUGH ADRENOCROME, NORADRENOCROME AND DOPACHROME) WITH CLINICAL STATE OF 50 PATIENTS UNDER DIFFERENT PSYCHOPHARMACOLOGIC DRUG. 087003 13-13
- PHARMACOLOGY OF CHLORPROMAZINE. CLINICAL STUDIES. 087364 13-13
- CLINICAL AND METABOLIC STUDIES WITH IMIPRAMINE IN MAN. 088143 13-07
- ETHCHLORVYNOL (PLACIDYL) ABUSE AND WITHDRAWAL (REVIEW OF CLINICAL PICTURE AND REPORT OF 2 CASES). 088152 13-15
- CLINICAL AND ELECTROENCEPHALOGRAPHIC EFFECTS OF CINANSERIN IN SCHIZOPHRENIC AND MANIC PATIENTS. 088153 13-07
- CLINICAL AND EXPERIMENTAL PSYCHOLOGICAL INVESTIGATIONS OF THE EFFECT OF ANTIANDROGEN CYPROTERONE ACETATE IN SLIGHTLY IRRESPONSIBLE AND GROSSLY IRRESPONSIBLE SEXUAL DELINQUENTS. 088693 13-11
- A CONTROLLED CLINICAL STUDY OF A NEW ANTIDEPRESSANT (TRAZODONE). 089066 13-10
- THE CLINICAL TESTING OF GERIATRIKA: A CLINICAL STUDY. 089150 13-11
- BIOCHEMICAL PHARMACOLOGY OF CATECHOLAMINES AND ITS CLINICAL IMPLICATIONS (UNPUBLISHED PAPER). 092856 13-03
- A POTENTIAL CLINICAL USE FOR METHYLPHENIDATE WITH TRICYCLIC ANTIDEPRESSANTS. 092932 13-09
- CLINICAL STUDY OF PIRIBEDIL WITH SYNDROMES OF INTELLECTUAL DETERIORATION IN AMNESIA. 093701 13-11
- CLINICAL EVALUATION OF THE ANTIDEPRESSANT EFFECTS OF DOXEPINE. 093702 13-09
- CLINICAL PERSPECTIVES IN PSYCHOPHARMACOLOGY. 094122 13-17
- SIMULTANEOUS CLINICAL USE OF TWO NEUROLEPTICS (DROPERIDOL AND FLUPENTHIXOL) IN PSYCHIATRIC THERAPY. 096309 13-08
- RESULTS OF DEPRESSION TREATMENT WITH NORTRIPTYLINE. CRITICAL CLINICAL CONTRIBUTION. 096310 13-09
- CLINICAL EXPERIENCE WITH THIORIDAZINE (MELLERIL) IN THE TREATMENT OF ANXIETY AND DEPRESSION ASSOCIATED WITH EMOTIONAL DISORDERS IN GENERAL PRACTICE. 097556 13-10
- A CLINICAL STUDY OF OXAFLOMAZINE; ITS PLACE AMONG NEUROLEPTIC DRUGS. 097797 13-08
- CLINICAL TRIALS OF A GENUINE ANTIDEPRESSIVE AMPHETAMINE: THE D-1-PARA-CHLORO-N-METHYLAMPHETAMINE. 097798 13-11
- A SYSTEMATIC CLINICAL STUDY WITH NICOTINIC ACID, THIORIDAZINE, FLUOXYMESTERONE AND THEIR COMBINATIONS IN HOSPITALIZED GERIATRIC PATIENTS: THERAPEUTIC RESULTS AND CHANGES IN PSYCHOMETRIC TEST PERFORMANCE. 098507 13-11
- CLINICAL EXPERIENCE WITH NOXITILINE, A NEW ANTIDEPRESSIVE AGENT. 098625 13-07
- SOME REFLECTIONS ON THE METHODOLOGY OF CLINICAL PSYCHOPHARMACOLOGICAL RESEARCH. 098734 13-16
- CRITICAL COMMENTARY ON THE CONCEPT OF NEUROLEPTICS (BASED ON PHARMACOLOGICAL AND CLINICAL FINDINGS WITH CLOZAPINE). 099027 13-17
- CLINICAL EFFECTIVENESS OF CLOZAPINE (INVESTIGATION WITH THE AMP SYSTEM). 099030 13-08
- CLINICAL INVESTIGATION OF DOXEPIN IN DEPRESSED PATIENTS. PILOT OPEN STUDY, CONTROLLED DOUBLE-BLIND TRIAL VERSUS IMIPRAMINE, AND ALL-NIGHT POLYGRAPHIC STUDY. 099031 13-10
- A CLINICAL TRIAL OF SCH-12041 WITH CHRONIC ALCOHOLIC PATIENTS. 099156 13-07
- ACUTE ADVERSE REACTIONS TO LSD IN CLINICAL AND EXPERIMENTAL USE IN THE UNITED KINGDOM. 099307 13-12
- ACUTE INTOXICATION BY MEPROBAMATE: CLINICAL AND MEDICO-LEGAL ASPECTS. 100404 13-15
- CLINICAL HYPOTHYROIDISM OCCURRING DURING LITHIUM TREATMENT: TWO CASE HISTORIES AND A REVIEW OF THYROID FUNCTION IN 19 PATIENTS. 101061 13-15
- DIAZEPAM: A CLINICAL TRIAL OF THERAPEUTIC EQUIVALENCE. 101564 13-10
- EXPERIMENTAL AND CLINICAL EXPERIENCE WITH ENCEPHABOL THERAPY IN GERONTOPSYCHIATRY. 101939 13-14
- CLINICAL AND ERGOTHERAPEUTIC EVALUATION OF FLUSPIRILENE (R-6218), A LONG-ACTING INJECTABLE NEUROLEPTIC, IN CHRONIC PSYCHOTIC PATIENTS. 102577 13-07
- LONG-TERM ADMINISTRATION OF DOXEPIN (SINEQUAN): CLINICAL AND LABORATORY SURVEY OF 40 PATIENTS. 102593 13-09
- ON THE CLINICAL PICTURE OF THE SO-CALLED PSYCHOPATHIC-LIKE SYNDROME IN ADOLESCENT GIRLS. 102715 13-17
- ON THE CLINICAL PICTURE OF COMPLICATIONS IN THE TREATMENT OF EPILEPTIC PATIENTS WITH ANTICONVULSANTS. 102829 13-15
- A CLINICAL VIEW OF THE AMPHETAMINES. 103172 13-17
- CLINICAL TOXICOLOGICAL AND ELECTROENCEPHALOGRAPHIC STUDY WITH SCH-12679 IN CHRONIC SCHIZOPHRENICS. 103325 13-07
- EVALUATION OF CLINICAL EFFICACY OF PIMOZIDE AS MAINTENANCE THERAPY IN CHRONIC SCHIZOPHRENIC PATIENTS. 103326 13-07
- OBSERVATIONS ON CHANGES IN THE CLINICAL PHENOMENOLOGY OF MANIC PHASES UNDER EXTENDED LITHIUM THERAPY. 103797 13-14
- CLINICAL POSSIBILITIES OF THE EVALUATION OF PHARMACOTHERAPY, INVESTIGATED BY TESTING THE EFFECTIVENESS OF THE NEUROLEPTIC DRUG PIMOZIDE. 104226 13-07
- CLINICAL DANGERS OF PSYCHOLOGICAL THEORIZING: THE GILLES-DE-LA-TOURETTE SYNDROME. 104558 13-17
- PRELIMINARY CLINICAL TRIAL WITH L-DOPA IN NARCOLEPSY. 104833 13-15
- FLUPHENAZINE ENANTHATE IN THE TREATMENT OF CHRONIC PSYCHOTIC PATIENTS: A CONTROLLED CLINICAL STUDY. 105673 13-08
- CLINICAL AND PHARMACOLOGICAL INVESTIGATION OF A NEW PSYCHOTROPIC DRUG SULPRIDE (DOGMATIL). 105825 13-07
- CLINICAL EXPERIENCE WITH FLUSPIRILENE IN PSYCHOSES. 105828 13-09
- AN EXPERIMENTAL AND CLINICAL CONTRIBUTION TO INTERACTION OF ALCOHOL AND DIAZEPAM. 105906 13-03
- CLINICAL EXPERIENCE WITH CLOTHIAPIN (ENTUMIN) IN SCHIZOPHRENIC PSYCHOSES. 105924 13-08
- CLINICAL EXPERIENCE WITH PROPHYLACTIC LITHIUM THERAPY OF MANIC-DEPRESSIVE PSYCHOSES. 105928 13-09
- CLINICAL EXPERIENCE WITH FLUPENTHIXOL IN THE TREATMENT OF CHRONIC SCHIZOPHRENIA. 105930 13-08
- SLEEP, PSYCHOLOGICAL AND CLINICAL CHANGES DURING ALCOHOL WITHDRAWAL IN NAD-TREATED ALCOHOLICS. 106132 13-11
- DIGITAL COMPUTER ANALYZED RESTING AND SLEEP EEG INVESTIGATIONS AND CLINICAL CHANGES DURING MOLINDONE TREATMENT. 107244 13-08
- EXPERIMENTAL AND CLINICAL INVESTIGATION OF THE NEW PSYCHOSTIMULATOR SYDNOCARB. 107728 13-13

- CLINICAL AND ELECTROENCEPHALOGRAPHIC ASSESSMENT OF DIAZEPAM IN LIVER DISEASE. 111963 13-15
- CLINICAL STUDY ON A NEW PSYCHOPHARMACOLOGICAL AGENT: PIPERIDYL. 114476 13-11
- CLINICAL AND QUANTITATIVE EEG CHANGES AT DIFFERENT DOSAGE LEVELS OF FLUPHENAZINE TREATMENT. 115401 13-08
- EVALUATION OF THE CLINICAL ACTION OF PIMOZIDE. 118129 13-08
- CLINICAL EVALUATION OF DIBENZAZEPINE (NOVERIL) IN THE TREATMENT OF DEPRESSIVE SYNDROMES. 118209 13-09
- THE CLINICAL PICTURE AND MANAGEMENT OF GILLES-DE-LA-TOURETTE SYNDROME. 118778 13-09
- CLINICAL STUDY OF THE EFFECT OF SUSTAINED RELEASE THIORIDAZINE IN LONG-TERM PSYCHIATRIC HOSPITAL PATIENTS. 121457 13-07
- A WORKING MODEL OF CLINICAL RESEARCH IN PRIVATE PRACTICE. 121476 13-11
- ASSESSMENT OF THE CLINICAL ACTION OF THE PREPARATION TP-12 SANDOZ IN THE TREATMENT OF MENTAL DISTURBANCES. 122946 13-11
- EVALUATION OF THE THERAPEUTIC SIGNIFICANCE OF THE PREPARATION IB-503 ON THE BASIS OF PERSONAL CLINICAL EXPERIENCE OVER A PERIOD OF FOUR YEARS. 122947 13-09
- CLINICAL PHARMACOLOGY AND PHARMACOTHERAPY. 125866 13-17
- CLINICAL OBSERVATIONS ON THE COMPOSITE TREATMENT OF PARKINSON'S SYNDROME WITH L-DOPA AND THE DECARBOXYLASE INHIBITOR RO-4-4602. 125996 13-11
- CLINICALLY ANXIETY AND THE EFFECTS OF SODIUM LACTATE ASSESSED CLINICALLY AND PHYSIOLOGICALLY. 100780 13-10
- CLOFIBRATE ETHANOL METABOLISM IN RATS TREATED WITH ETHYL-ALPHA-P-CHLOROPHENOXYSOBUTYRATE (CLOFIBRATE). 115044 13-03
- CLOMACRAN CLOMACRAN AND CHLORPROMAZINE IN PSYCHOTIC OUTPATIENTS: A CONTROLLED STUDY. 086521 13-08
- CLOMIPRAMINE TREATMENT OF OBSESSIVE-COMPULSIVE DISORDERS AND PHOBIC ANXIETY STATES WITH CLOMIPRAMINE. 105889 13-10
- CLOTHIAPIN COMPARISON OF THE THERAPEUTIC RESULTS OF CLOTHIAPIN AND PERPHENAZINE IN SCHIZOPHRENIA. 105829 13-08
- OUR EXPERIENCE WITH CLOTHIAPIN IN SCHIZOPHRENIA. 105923 13-08
- CLINICAL EXPERIENCE WITH CLOTHIAPIN (ENTUMIN) IN SCHIZOPHRENIC PSYCHOSES. 105924 13-08
- CLOZAPINE CLOZAPINE, A NONCATALPTOGENIC NEUROLEPTIC FOR THE TREATMENT OF AGITATED CONDITION BEHAVIORAL DISORDERS. 094970 13-14
- CRITICAL COMMENTARY ON THE CONCEPT OF NEUROLEPTICS (BASED ON PHARMACOLOGICAL AND CLINICAL FINDINGS WITH CLOZAPINE). 099027 13-17
- CLINICAL EFFECTIVENESS OF CLOZAPINE (INVESTIGATION WITH THE AMP SYSTEM). 099030 13-08
- CLUES LITHIUM SITE OF ACTION: CLUES FROM SIDE-EFFECTS. 089531 13-15
- CNS EFFECT OF DRUGS ON AMINES IN THE CNS. 077923 13-03
- BEHAVIORAL EVIDENCE FOR TWO TYPES OF CHOLINERGIC RECEPTORS IN THE CNS. 099646 13-04
- PHENOTHIAZINE INDUCED HYPERGLYCEMIA: RELATION TO CNS AND ADRENAL EFFECTS. 100221 13-03
- ASSOCIATION OF CNS ACTIVE DRUGS WITH 9-ETHYLADENINE. 102101 13-17
- ANTAGONISM OF INTRACEREBRALLY INDUCED NICOTINIC CONVULSIONS IN MICE: A METHOD FOR MEASURING THE CENTRAL ANTIMICOTINIC ACTIVITY OF CNS ACTING AGENTS. 104807 13-06
- CNS EFFECT OF NICOTINE AS THE DISCRIMINATIVE STIMULUS FOR THE RAT IN A T-MAZE. 108732 13-04
- COBALT THE INFLUENCE OF BARBITURATES ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCI. 104375 13-03
- INFLUENCE OF CHLORDIAZEPOXIDE ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCI. 104376 13-03
- COCAINE RAPID METHOD FOR SIMULTANEOUS QUALITATIVE ASSAY OF NARCOTICS, COCAINE, QUININE AND PROPOXYPHENE IN THE URINE. 100168 13-16
- THE EFFECT OF COCAINE ON CATECHOL-O-METHYLTRANSFERASE AND ON THE RESPONSE TO NOREPINEPHRINE OF RABBIT AORTIC STRIPS. 105391 13-03
- A NEUROPSYCHOPHARMACOLOGICAL COMPARISON OF D-AMPHETAMINE, L-DOPA, AND COCAINE. 107045 13-03
- POSSIBLE ROLE OF DOPAMINE CONTAINING NEURONES IN THE BEHAVIOURAL EFFECTS OF COCAINE. 109196 13-03
- POTENTIATION BY COCAINE OF RESPONSES OF THE GUINEA-PIG ISOLATED TRACHEAL CHAIN TO ETHYLNORADRENALINE AND ALPHA-METHYLNORADRENALINE. 122550 13-03
- INFLUENCE OF COCAINE AND PHENOXYBENZAMINE ON NORADRENALINE UPTAKE AND RELEASE. 125959 13-03
- COCHLEAR THE PHARMACOLOGY OF PERIPHERAL AUDITORY PROCESSES, COCHLEAR PHARMACOLOGY. 108523 13-13
- CODEINE ELECTROENCEPHALOGRAPHIC STUDIES ON CODEINE DEPENDENCE IN RAT WITH SPECIAL REFERENCE TO THE SPIKE FORMATION IN THE HIPPOCAMPUS DURING ABSTINENCE SYNDROME. 098304 13-03
- THE HYPNOTIC EFFECTS OF CODEINE AND SECOBARBITAL AND THEIR INTERACTION IN MAN. 104365 13-14
- COENZYME ENHANCEMENT OF FATTY ACID OXIDATION AND MEDIUM CHAIN FATTY ACYL COENZYME A SYNTHETASE BY ADENINE NUCLEOTIDES IN RAT HEART HOMOGENATES. 089434 13-03
- COERULEUS EFFECTS OF AMPHETAMINE ON SINGLE CELL ACTIVITY IN A CATECHOLAMINE NUCLEUS, THE LOCUS COERULEUS. 111661 13-03
- COFFEEINE THE CRITICAL FLICKER FUSION DURING THE ACTION OF DIFFERENT DRUGS: I. COFFEEINE AND MEFENAMATE (INCLUDING A FULL DESCRIPTION OF THE METHOD). 104789 13-13
- COGNITIVE COGNITIVE STYLES IN HYPERACTIVE CHILDREN AND THE EFFECT OF METHYLPHENIDATE. 099939 13-11
- COLD BRAIN HISTAMINE: RAPID APPARENT TURNOVER ALTERED BY RESTRAINT AND COLD STRESS. 078017 13-03
- COMA THE REVERSAL OF ANTICHOLINERGIC DRUG-INDUCED DELIRIUM AND COMA WITH PHYSOSTIGMINE. 079833 13-14
- MARIJUANA AND DIABETIC COMA. 113636 13-15
- COMATOSE ADMINISTRATION OF NOVOCAIN IN SOME COMATOSE STATES FOLLOWING INTOXICATION. 118128 13-15
- COMBINATION COMBINATION MEDICATIONS IN PSYCHIATRIC TREATMENT: PATTERNS IN A GROUP OF ELDERLY HOSPITAL PATIENTS. 086704 13-14
- TRANLYCYPROMINE TRIFLUOPERAZINE COMBINATION IN THE TREATMENT OF SCHIZOPHRENIA. 088265 13-08
- PHARMACOLOGICAL STUDIES OF FLUPHENAZINE AND NORTRIPTYLINE IN COMBINATION IN MAN. 089325 13-13
- ANTIPARKINSONIAN EFFICACY AND TOXICITY OF L-DOPA ALONE AND IN COMBINATION WITH ALPHA-METHYLDOPAHYDRAZINE (MDH) (UNPUBLISHED PAPER). 092899 13-09

- COMBINATION OF MEPROBAMATE AND BENACTYZINE (DEPROL) AND CONSTITUENTS IN NEUROTIC DEPRESSED OUTPATIENTS. 100208 13-10
- COMPARISON OF CHLORDIAZEPoxide AMITRIPTYLINE COMBINATION WITH AMITRIPTYLINE ALONE IN ANXIETY DEPRESSIVE STATES. 102215 13-10
- IDENTIFICATION OF (-)-DELTA-9- $\Delta$ ,10 $\Delta$ ,TRANS-TETRAHYDROCANNABINOL AND TWO OF ITS METABOLITES IN RATS BY USE OF COMBINATION GAS CHROMATOGRAPHY MASS SPECTROMETRY AND MASS FRAGMENTOGRAPHY. 102733 13-03
- THE COMBINATION OF PROTRIPTYLINE AND OXAZEPAM IN DEPRESSED NEUROTIC GENERAL PRACTICE PATIENTS. 103626 13-10
- MATING BEHAVIOR IN THE MALE RAT TREATED WITH P-CHLOROPHENYLALANINE METHYL ESTER ALONE AND IN COMBINATION WITH PARGYLINE. 104431 13-04
- EXTINCTION OF FEAR I: EFFECTS OF AMYLOBARBITONE AND DEXAMPHETAMINE GIVEN SEPARATELY AND IN COMBINATION ON FEAR AND EXPLORATORY BEHAVIOUR IN RATS. 104827 13-04
- ACUTE EFFECT OF CHLORPROTHIXENE (SMG), CAFFEINE (200MG) AND THE COMBINATION OF BOTH DRUGS ON VERBAL ASSOCIATIONS. 105997 13-14
- INHIBITION OF DRUG METABOLISM BY LEVODOPA IN COMBINATION WITH A DOPA-DECARBOXYLASE INHIBITOR. 111618 13-13
- PSYCHOTIC EPISODES PROVOKED BY A COMBINATION OF BARBITURATES AND PHENMETRAZINE. 112436 13-15
- FURTHER EXPERIENCE IN THE TREATMENT OF DEPRESSIVE STATES WITH A COMBINATION OF PSYCHOTONE AND ELECTROSHOCK THERAPY. 112443 13-09
- A PSYCHODERMATOLOGICAL STUDY OF A COMBINATION OF TWO COMPOUNDS RESULTING IN A MIXED REACTION, ANTIDEPRESSIVE AND TRANQUILIZING (AMITRIPTYLINE - PERPHENAZINE). 121753 13-07
- LORDOSIS BEHAVIOR IN MALE RATS TREATED WITH ESTROGEN IN COMBINATION WITH TETRABENAZINE AND NIALAMIDE. 125165 13-04
- COMBINATIONS**
- A SYSTEMATIC CLINICAL STUDY WITH NICOTINIC ACID, THIORIDAZINE, FLUOXYMESTERONE AND THEIR COMBINATIONS IN HOSPITALIZED GERIATRIC PATIENTS: THERAPEUTIC RESULTS AND CHANGES IN PSYCHOMETRIC TEST PERFORMANCE. 098507 13-11
- COMBINED**
- COMBINED ADMINISTRATION OF THIORIDAZINE AND NICOTINIC ACID IN THE TREATMENT OF GERIATRIC PATIENTS. 078942 13-11
- BRAIN LEVELS OF IMIPRAMINE AND DESIPRAMINE AFTER COMBINED TREATMENT WITH THESE DRUGS IN RATS. 086812 13-03
- DETERMINATION OF THE COMPONENTS OF A COMBINED PREPARATION OF GLUTETHIMIDE, AMOBARBITAL AND PROMETHAZINE IN AUTOPSY MATERIAL FROM SEVERAL SUICIDES. 089151 13-15
- COMBINED ADMINISTRATION OF THIORIDAZINE, NICOTINIC ACID, AND FLUOXYMESTERONE IN THE TREATMENT OF GERIATRIC PATIENTS. 098601 13-13
- COMBINED INTRAMUSCULAR ADMINISTRATION OF DEPOT FLUPHENAZINE AND BENZOTROPINE MESYLATE IN CHRONIC SCHIZOPHRENIC PATIENTS. 098602 13-08
- COMBINED ANTIDEPRESSANT THERAPY. 101622 13-09
- THE TOXICITY OF TWO MAO INHIBITORS COMBINED WITH 5-HTP OR L-DOPA IN ANESTHETIZED MICE. 103314 13-05
- STUDIES OF THE COMBINED EFFECTS OF CAFFEINE AND ETHANOL. (PH.D. DISSERTATION). 104741 13-17
- COMBINED TREATMENT WITH ECT AND ANTIPSYCHOTIC DRUGS IN SCHIZOPHRENIA. 108959 13-08
- ATTEMPT TO TREAT STUPOROUS STATES WITH FLUPHENAZINE COMBINED WITH CERTAIN HORMONES. 125787 13-08
- COMMENTARY**
- CRITICAL COMMENTARY ON THE CONCEPT OF NEUROLEPTICS (BASED ON PHARMACOLOGICAL AND CLINICAL FINDINGS WITH CLOZAPINE). 099027 13-17
- COMMUNICATION**
- PRELIMINARY COMMUNICATION: T. DECLINING DOSE DRUG DESENSITIZATION FOR PHOBIAS. 100736 13-10
- VERBAL COMMUNICATION WITH L-DOPA TREATMENT. 107994 13-14
- COMMUNITY**
- OUTLINES OF THE MANAGEMENT OF COMMON PSYCHIATRIC CRISES AND EMERGENCIES IN THE COMMUNITY. 096018 13-17
- COMPARED**
- KETIPRAMINE FUMARATE AS COMPARED TO IMIPRAMINE IN DEPRESSED OUTPATIENTS. 077823 13-09
- MEDAZEPAM COMPARED WITH AMYLOBARBITONE IN TREATMENT OF ANXIETY. 088243 13-10
- GLOBAL RATINGS COMPARED TO RATING SCALES IN EVALUATING TRIFLUOPERAZINE AMOBARBITAL IN ANXIOUS PSYCHONEUROTIC OUTPATIENTS. 098093 13-10
- RESULTS OF A DOUBLE-BLIND EXPERIMENT WITH HF-1954 (8-CHLORO-11-(4-METHYL-1-PIPERAZINYL) 5H DIBENZODIAZEPINE) COMPARED WITH LEVOMEPROMAZINE. 099032 13-08
- AGGRESSION AND ASSOCIATED NEURAL EVENTS IN CATS: EFFECTS OF PARA-CHLOROPHENYLALANINE COMPARED WITH ALCOHOL. 101287 13-03
- EXPERIMENTS WITH UCB-6215, A DRUG WHICH ENHANCES ACQUISITION IN RATS: ITS EFFECTS COMPARED WITH THOSE OF METHAMPHETAMINE. 107159 13-04
- COMPARING**
- EFFECTIVENESS OF ANTIDEPRESSANT DRUGS: A TRIPLE-BLIND STUDY COMPARING IMIPRAMINE, DESIPRAMINE, AND PLACEBO. 079289 13-10
- DOUBLE-BLIND CLINICAL STUDY COMPARING DOXEPIN AND IMIPRAMINE IN DEPRESSION. 086522 13-09
- COMPARISON**
- DOXEPIN IN THE TREATMENT OF PSYCHONEUROTIC PATIENTS: A COMPARISON BETWEEN TWO CLINICAL SETTINGS. 077431 13-14
- THE SUBCELLULAR DISTRIBUTION OF ENDOGENOUS AND EXOGENOUS SEROTONIN IN BRAIN TISSUE: COMPARISON OF SYNAPTOSOMES STORING SEROTONIN, NOREPINEPHRINE, AND GAMMA-AMINOBUTYRIC ACID. 077855 13-03
- HALLUCINOGENS AND NONHALLUCINOGENS: A COMPARISON OF THE EFFECTS ON 5-HYDROXYTRYPTAMINE AND NORADRENALINE. 077892 13-03
- A CLINICAL COMPARISON OF MOLINDONE HYDROCHLORIDE WITH TRIFLUOPERAZINE IN PSYCHOTIC OUTPATIENTS. 078941 13-08
- COMPARISON OF MOLINDONE AND PLACEBO IN ANXIOUS DEPRESSED PATIENTS. 086897 13-10
- A DOUBLE-BLIND COMPARISON OF MOLINDONE AND TRIFLUOPERAZINE IN THE TREATMENT OF ACUTE SCHIZOPHRENIA. 087033 13-08
- A COMPARISON OF TECHNIQUES TO INDUCE ALCOHOL DEPENDENCE AND TOLERANCE IN THE MOUSE (UNPUBLISHED PAPER). 087462 13-06
- COMPARISON BETWEEN ACUTE AND CHRONIC ADMINISTRATION OF ETHYL-ALCOHOL ON THE DEVELOPMENT OF TOLERANCE TO PENTOBARBITAL. 088732 13-03
- COMPARISON OF PYRAZOLE AND 4-BROMOPYRAZOLE AS INHIBITORS OF ALCOHOL DEHYDROGENASES: THEIR POTENCY, TOXICITY AND DURATION OF ACTION IN MICE. 094253 13-05
- COMPARISON OF THIORIDAZINE TABLETS TO CHLORPROMAZINE SPANSULES IN THE MAINTENANCE CARE OF CHRONIC SCHIZOPHRENICS. 097554 13-07
- COMPARISON OF METABOLISM OF Mescaline AND 3,4-DIMETHOXYPHENYLETHYLAMINE IN HUMANS. 098095 13-13
- THE COMPARISON OF THE STEREOTYPED BEHAVIOR INDUCING EFFECTS OF D-AMPHETAMINE AND L-AMPHETAMINE IN DOGS. 099110 13-04
- PHARMACOLOGICAL COMPARISON OF PROSTAGLANDIN-F-2- $\alpha$ , SEROTONIN AND NOREPINEPHRINE ON CEREBROVASCULAR TONE OF MONKEY. 099653 13-03
- A COMPARISON BETWEEN CHLORPROMAZINE AND THIOETHIXENE IN A VETERANS ADMINISTRATION HOSPITAL POPULATION. 099887 13-08
- A QUANTITATIVE ELECTROENCEPHALOGRAPHIC COMPARISON OF SOME BENZODIAZEPINES IN THE PRIMATE. 100212 13-03

- COMPARISON OF PRAZEPAM AND PLACEBO IN THE TREATMENT OF CONVALESCING NARCOTIC ADDICTS. 100259 13-14
- COMPARISON OF THIORIDAZINE AND CHLORPROMAZINE IN DOCTORS CHOICE RESEARCH DESIGN. 100438 13-16
- A TECHNIQUE IN THE EVALUATION OF PSYCHOTROPIC MEDICATION BASED ON A PATIENT DEMAND SCHEDULE: COMPARISON OF THE EFFICACY OF OXYPERTINE, DIAZEPAM AND PLACEBO IN ANXIETY. 100538 13-10
- A COMPARISON BETWEEN DIAZEPAM, DIXYRAZINE, OPRIPRAMOL AND PLACEBO IN ANXIETY STATES. 101410 13-10
- COMPARISON OF CHLORDIAZEPoxide AMITRIPTYLINE COMBINATION WITH AMITRIPTYLINE ALONE IN ANXIETY DEPRESSIVE STATES. 102215 13-10
- SOME CURRENT THOUGHTS ON LITHIUM CARBONATE IN MANIC-DEPRESSIVE ILLNESS BASED ON A DOUBLE-BLIND COMPARISON WITH CHLORPROMAZINE. 103627 13-09
- A COMPARISON OF SIDE-EFFECTS BETWEEN LITHIUM ACETATE AND LITHIUM SULFATE. 103794 13-15
- COMPARISON OF MAJOR DRUG THERAPIES FOR ALLEVIATION OF ANXIETY AND DEPRESSION. 103912 13-14
- GABA UPTAKE IN RAT CENTRAL NERVOUS SYSTEM: COMPARISON OF UPTAKE IN SLICES AND HOMOGENATES AND THE EFFECTS OF SOME INHIBITORS. 104007 13-03
- A DOUBLE-BLIND COMPARISON OF DOTHIEPIN AND AMITRIPTYLINE FOR THE TREATMENT OF DEPRESSION WITH ANXIETY. 104830 13-09
- A COMPARISON OF STATE DEPENDENT LEARNING INDUCED BY ELECTROCONVULSIVE SHOCK AND PENTOBARBITAL. 105362 13-04
- SOME 5-HYDROXYTRYPTAMINE-LIKE ACTIONS OF FENFLURAMINE: A COMPARISON WITH D-AMPHETAMINE AND DIETHYLPROPION. 105413 13-04
- COMPARISON OF THE THERAPEUTIC RESULTS OF CLOTHIAPIN AND PERPHENAZINE IN SCHIZOPHRENIA. 105829 13-08
- RESULTS OF LITHIUM TREATMENT OF MANIC-DEPRESSIVE PSYCHOSIS IN COMPARISON WITH THE CONTROL GROUP. 105830 13-09
- MULTIHOSPITAL CONTROLLED COMPARISON OF THE THERAPEUTIC EFFECTS OF FOUR ANTIDEPRESSANTS. 105833 13-09
- COMPARISON OF PROCHLORPERAZINE, PERPHENAZINE, AND OCTOCLOTHIEPIN IN ERETHISMIC OLIGOPHRENIA. 105834 13-14
- CONTROLLED COMPARISON OF THE THERAPEUTIC EFFECT OF TRIMEPROPRIMINE AND AMITRIPTYLINE. 105835 13-11
- A COMPARISON OF LITHIUM CARBONATE AND CHLORPROMAZINE IN THE TREATMENT OF EXCITED SCHIZO-AFFECTIVES. (UNPUBLISHED PAPER). 106066 13-08
- THE COMPARISON OF THE EFFECTS OF ATROPINE AND BENACTYZINE ON SOME STRUCTURES OF LIMBIC SYSTEM OF THE RATS. 106092 13-03
- A NEUROPSYCHOPHARMACOLOGICAL COMPARISON OF D-AMPHETAMINE, L-DOPA, AND COCAINE. 107045 13-03
- A COMPARISON OF CHLORPROTHIXENE AND HALOPERIDOL IN ACUTE SCHIZOPHRENIA. 108838 13-08
- A CONTROLLED COMPARISON OF DRUG EFFECTS ON ESCAPE FROM CONDITIONED AVERSIVE STIMULATION (ANXIETY) AND FROM CONTINUOUS SHOCK. 112313 13-04
- COMPARISON OF THE EFFECTS OF CYCLAZOCINE AND IMIPRAMINE ON THE CIRCADIAN SLEEP WAKING CYCLE OF THE CAT. 121220 13-05
- A COMPARISON OF PG-5310, A NEW SELECTIVE MONOAMINE OXIDASE INHIBITOR, AND OTHER MAO INHIBITORS ON THE BLOOD PRESSURE RESPONSE TO TYRAMINE. 123287 13-03
- COMPARISON OF DOSE DEPENDENT DEPLETION OF SOME MONOAMINES IN RAT BRAINS BY MEANS OF RESERPINE AND OXYPERTINE. 126103 13-03
- COMPARISONS**  
DRUG EFFECTS ON DISTRESS-EVOKED BEHAVIOR IN MICE: METHODOLOGY AND DRUG CLASS COMPARISONS. 104137 13-04
- COMPARTMENT**  
STIMULANT ACTION OF D-AMPHETAMINE IN RELATION TO TEST COMPARTMENT DIMENSIONS AND BEHAVIORAL MEASURE. 086901 13-04
- COMPENSATING**  
ADRENERGIC MECHANISMS IN HYPOGLYCEMIC SHOCK IN RABBITS. II. DISORDERS OF ADRENERGIC RESPONSE COMPENSATING HYPOGLYCEMIA IN RABBITS TREATED WITH SMALL DOSES OF RESERPINE. 119648 13-03
- COMPETITION**  
INFLUENCE OF (-)DELTA(G) TRANS-TETRAHYDROCANNABINOL AND Mescaline ON THE BEHAVIOR OF RATS SUBMITTED TO FOOD COMPETITION SITUATIONS. 104578 13-04
- COMPLEX**  
THE VIOLET PIGMENT OF LYSERGIC ACID ALKALOID PRODUCING CULTURES OF CLAVICEPS-PASPALI: FERRIC COMPLEX OF 2,3 DIHYDROXYBENZOIC ACID. 100171 13-01
- EXPERIENCE WITH COMPLEX THERAPY FOR PATIENTS WITH THE PERIOD FORM OF SCHIZOPHRENIA. 102653 13-08
- EFFECTS OF ALCOHOL AND METHYLPHENIDATE ON COMPLEX JUDGMENTS. 113919 13-13
- ATTEMPT TO ADMINISTER VECTOR CARDIOGRAPHY IN SCHIZOPHRENIA IN AN EVALUATION OF THE QRS COMPLEX. 118205 13-08
- COMPLICATIONS**  
CARDIAC COMPLICATIONS OF TRICYCLIC ANTIDEPRESSANT THERAPY. 088986 13-15
- COMPLICATIONS OF PSYCHOTROPIC MEDICATIONS IN HIGH DOSAGE. 098690 13-15
- ON THE CLINICAL PICTURE OF COMPLICATIONS IN THE TREATMENT OF EPILEPTIC PATIENTS WITH ANTICONVULSANTS. 102829 13-15
- PSYCHIATRIC COMPLICATIONS OF MEDICAL DRUGS. 107546 13-15
- MENTAL COMPLICATIONS OF L-DOPA THERAPY IN PARKINSONS PATIENTS. 110477 13-15
- COMPOSITE**  
CLINICAL OBSERVATIONS ON THE COMPOSITE TREATMENT OF PARKINSONS SYNDROME WITH L-DOPA AND THE DECARBOXYLASE INHIBITOR RO-4-4602. 125996 13-11
- COMPUTER**  
EEG CHANGES AFTER FLUPHENAZINE ENANTHATE AND DECANOATE BASED ON ANALOG POWER SPECTRA AND DIGITAL COMPUTER PERIOD ANALYSIS. 105009 13-13
- DIGITAL COMPUTER ANALYZED RESTING AND SLEEP EEG INVESTIGATIONS AND CLINICAL CHANGES DURING MOLINDONE TREATMENT. 107244 13-08
- EFFECT OF THIOTHIXENE ON DIGITAL COMPUTER SLEEP PRINTS OF SCHIZOPHRENIC PATIENTS. 108569 13-14
- EFFECTS OF FLUPHENAZINE HYDROCHLORIDE ON DIGITAL COMPUTER SLEEP PRINTS OF SCHIZOPHRENIC PATIENTS. 108701 13-08
- CONCENTRATION**  
EFFECTS OF THIOPROPERAZINE ON THE URINARY EXCRETION AND CONCENTRATION IN THE CEREBROSPINAL FLUID OF 5-HYDROXYINDOLEACETIC ACID IN THE CHRONIC SCHIZOPHRENIC. 074835 13-13
- CHRONIC DOPA TREATMENT: EFFECT ON THE CONCENTRATION OF NOREPINEPHRINE IN THE HEARTS AND BRAINS OF RATS. 083161 13-03
- EFFECT OF PSYCHOTROPIC DRUGS ON TRYPTOPHAN CONCENTRATION IN THE RAT BRAIN. 086107 13-03
- PLASMA DRUG CONCENTRATION AND CLINICAL EFFECT. 086529 13-13
- EFFECT OF ANESTHETIC DOSES OF GAMMA-HYDROXYBUTYRATE ON SUBCORTICAL CONCENTRATION OF HOMOVANILIC ACID. 086813 13-03
- PLASMA MAGNESIUM CONCENTRATION AND URINARY MAGNESIUM EXCRETION IN RATS TREATED CHRONICALLY WITH MORPHINE. 099801 13-03
- REGIONAL AND SUBCELLULAR CHANGES IN THE CONCENTRATION OF 5-HYDROXYTRYPTAMINE AND 5-HYDROXYINDOLEACETIC ACID IN THE RAT BRAIN CAUSED BY HYDROCORTISONE, DL-ALPHA-METHYLTRYPTOPHAN, L-KYNURENE AND IMMOBILIZATION. 104538 13-03

## Subject Index

- EFFECT OF NOREPINEPHRINE ON THE CONCENTRATION OF ADENOSINE 3,5 MONOPHOSPHATE OF RAT PINEAL GLAND IN ORGAN CULTURE. (UNPUBLISHED PAPER). 106059 13-03
- EFFECT OF TRIPHENASINE AND CHLORPROMAZINE ON NORADRENALINE AND ATP CONCENTRATION IN THE GRANULATION AND SUPERNATANT FRACTIONS OF THE BRAIN STEM. 111293 13-03
- GENETIC CONTROL OF NORTRIPTYLINE KINETICS IN MAN - A STUDY OF RELATIVES OF PROPOSITI WITH HIGH PLASMA CONCENTRATION. 122578 13-13
- ON THE DECREASE IN CONCENTRATION OF 5-HIAA IN RAT BRAIN BY IMIPRAMINE AND RELATED SUBSTANCES. 123264 13-03
- CONCENTRATIONS**
- CHLORPROMAZINE: CONCENTRATIONS IN PLASMA, EXCRETION IN URINE AND DURATION OF EFFECT. 086531 13-13
- FOLIC ACID CONCENTRATIONS IN CEREBROSPINAL FLUID IN RELATION TO ANTICONVULSANT DRUGS AND CEREBRAL ATROPHY. 100809 13-11
- EFFECT OF CHRONIC ADMINISTRATION OF NICOTINE ON THE CONCENTRATIONS OF ADRENAL ENZYMES INVOLVED IN THE SYNTHESIS AND METABOLISM OF ADRENALINE. 104535 13-03
- DIURNAL VARIATION OF HEPATIC AMPHETAMINE CONCENTRATIONS IN MICE FED FREELY AND FED SINGLE DAILY MEALS. 106425 13-03
- EFFECT OF NEUROLEPTICS ON BRAIN AMPHETAMINE CONCENTRATIONS IN THE RAT. 106428 13-03
- TETRAHYDROISOQUINOLINE ALKALOIDS IN THE ADRENAL MEDULLA AFTER PERFUSION WITH BLOOD CONCENTRATIONS OF (14C)ACETALDEHYDE. 108281 13-03
- FAILURE TO AFFECT TISSUE RESERPINE CONCENTRATIONS BY ALTERATION OF ADRENERGIC NERVE ACTIVITY. 108399 13-03
- THE EFFECT OF BETA-PHENETHYLAMINE ON NORADRENALINE CONCENTRATIONS IN GUINEA-PIG BRAIN. 112287 13-03
- CONCEPT**
- CRITICAL COMMENTARY ON THE CONCEPT OF NEUROLEPTICS (BASED ON PHARMACOLOGICAL AND CLINICAL FINDINGS WITH CLOZAPINE). 099027 13-17
- CONCLUSIONS**
- POLYPHARMACY: DATA AND CONCLUSIONS. 085689 13-08
- CONDITION**
- CLOZAPINE, A NONCATALEPTIC NEUROLEPTIC FOR THE TREATMENT OF AGITATED CONDITION BEHAVIORAL DISORDERS. 094970 13-14
- MEDICATION TREATMENT OF VASCULAR HYPOTONIC CONDITION PICTURES. 095131 13-13
- EFFECT OF ALDRIN ON THE CONDITION AVOIDANCE RESPONSE AND ELECTROSHOCK SEIZURE THRESHOLD OF OFFSPRING FROM ALDRIN TREATED MOTHER. 104791 13-04
- CONDITIONAL**
- THE INVOLVEMENT OF CENTRAL CHOLINERGIC MECHANISMS IN THE FORMATION AND INHIBITION OF CONDITIONAL REFLEXES IN RATS. 098295 13-04
- CONDITIONED**
- EFFECTS OF SOME PSYCHOACTIVE DRUGS ON CONDITIONED AVOIDANCE RESPONSE IN AGGRESSIVE MICE. 077992 13-04
- CHLORDIAZEPoxide AND AVERSIVE CONDITIONING: EFFECTS OF ACQUISITION AND PERFORMANCE OF THE CONDITIONED NICTITATING MEMBRANE RESPONSE IN THE RABBIT. 078527 13-04
- DISSOCIATIVE EFFECTS OF DRUGS ON THE EXTINCTION OF CONDITIONED SUPPRESSION IN THE RAT. 086772 13-04
- POTENTIATION OF EFFECTS OF L-DOPA ON CONDITIONED AVOIDANCE BEHAVIOR BY INHIBITION OF EXTRACEREBRAL DOPA-DECARBOXYLASE. 088685 13-03
- THE EFFECTS OF CHLORPROMAZINE AND D-AMPHETAMINE ON THE ACQUISITION AND PERFORMANCE OF A CONDITIONED ESCAPE RESPONSE IN RATS. 091532 13-03
- EFFECTS OF SINGLE 1/2 LD50 DOSES OF GB UPON DELAYED RESPONSE AND CONDITIONED AVOIDANCE RESPONSE TESTS. 094956 13-03
- THE EFFECT OF PROSTAGLANDIN E2 ON CONDITIONED AVOIDANCE RESPONSE PERFORMANCE IN RATS. 098159 13-04

## Psychopharmacology Abstracts

- P-CHLOROPHENYLALANINE EFFECTS ON A CONDITIONED EMOTIONAL RESPONSE IN RATS. 100565 13-04
- RAPID LEARNING OF PASSIVE AVOIDANCE BY WEANLING RATS: CONDITIONED TASTE AVERSION. 101354 13-04
- CONDITIONED DRINKING PRODUCED BY PROCAINE, NAEL, AND ANGIOTENSIN. 102540 13-04
- EFFECTS OF DIAZEPAM ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS. 104138 13-04
- DRUG-INDUCED SUPPRESSION OF CONDITIONED HYPERTHERMIC AND CONDITIONED AVOIDANCE BEHAVIOR RESPONSE IN RATS. 104144 13-04
- EFFECT OF POST-TRIAL INJECTION OF BETA ADRENERGIC BLOCKING AGENTS ON A CONDITIONED REFLEX IN RATS. 104577 13-04
- EFFECT OF CHLORPROMAZINE ON CONDITIONED AVOIDANCE AS A FUNCTION OF CS-US INTERVAL LENGTH. 104579 13-04
- THE EFFECTS OF VARIOUS ANTIDEPRESSANT DRUGS UPON THE TETRABENAZINE SUPPRESSED CONDITIONED AVOIDANCE RESPONSE IN RATS. 105013 13-04
- THE INFLUENCE OF ANTICHOLINERGIC HALLUCINOGENS ON SPONTANEOUS AND CONDITIONED BEHAVIOUR IN RATS. 105994 13-04
- THE EFFECT OF CHLORPROTHIXENE AND CAFFEINE ON THE CONDITIONED ALIMENTARY MOTOR REFLEXES IN CATS. 106002 13-04
- THE EFFECTS OF TWO TETRAHYDROCANNABINOLS, (DELTA9-THC AND DELTA8-THC) ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS. 106393 13-04
- EFFECTS OF HALOPERIDOL, TRIFLUOPERIDOL, NITRAZEPAM AND CHLORDIAZEPoxide UPON CONDITIONED MIDBRAIN BEHAVIORAL RESPONSES. 106394 13-04
- THE ROLE OF CENTRAL M-CHOLINERGIC SYSTEMS IN THE DEVELOPMENT OF FOOD MOTOR CONDITIONED REFLEXES. 107719 13-03
- ACQUISITION OF CONDITIONED AVOIDANCE RESPONSE IN RATS UNDER THE INFLUENCE OF ADDICTING DRUGS. 110182 13-04
- EFFECT OF ANTICHOLINESTERASE SUBSTANCES ON CHANGES OF CONDITIONED REFLEXES INDUCED BY CHLORPROMAZINE. 111133 13-04
- A CONTROLLED COMPARISON OF DRUG EFFECTS ON ESCAPE FROM CONDITIONED AVERSIVE STIMULATION (ANXIETY) AND FROM CONTINUOUS SHOCK. 112313 13-04
- EFFECT OF AZAPHEN ON THE CONDITIONED AVOIDANCE REFLEX IN RATS. 113518 13-04
- EFFECT OF CHLORPROMAZINE AND PHENAMINE ON THE BASAL METABOLISM AND CONDITIONED REFLEX ACTIVITY IN RATS UNDER STRESS CONDITIONS. 113521 13-03
- EFFECT OF TRIPHENASINE ON CONDITIONED REFLEX PROCESSES ACCORDING TO PARAMETERS OF EVOKED POTENTIALS. 113749 13-04
- EFFECT OF PUROMYCIN AND ACTINOMYCIN-D INJECTION INTO THE MESENCEPHALIC RETICULAR FORMATION ON THE CONDITIONED REFLEXES OF ANIMALS. 113758 13-04
- EFFECT OF INTRAVENTRICULARLY APPLIED SODIUM OROTATE ON A CONDITIONED AVOIDANCE RESPONSE OF THE RAT. 119690 13-04
- CONDITIONING**
- CHLORDIAZEPoxide AND AVERSIVE CONDITIONING: EFFECTS OF ACQUISITION AND PERFORMANCE OF THE CONDITIONED NICTITATING MEMBRANE RESPONSE IN THE RABBIT. 078527 13-04
- DIFFERENCES AMONG AGE AND SEX GROUPS WITH RESPECT TO CARDIOVASCULAR CONDITIONING AND REACTIVITY. (UNPUBLISHED PAPER). 082516 13-13
- EFFECTS OF ADRENERGIC BLOCKING AGENTS ON PERCEPTUAL TYPES IN AN AUTONOMIC CONDITIONING PARADIGM (UNPUBLISHED PAPER). 085292 13-17
- SOME CRITICAL CONSIDERATIONS ON HUMAN CONDITIONING IN PSYCHOPHARMACOLOGY. 086768 13-17
- THE ACTION OF LYSERGIC ACID DIETHYLAMIDE (LSD-25) ON CONDITIONING AND SEDATION. 086858 13-04

- EFFECT OF TEMPORARY SEPTAL DYSFUNCTION ON CONDITIONING AND PERFORMANCE OF FEAR RESPONSES IN RATS. 097448 13-03
- EFFECTS OF PSYCHOACTIVE AGENTS ON THE CONDITIONING OF THE MICROCIRCULATION IN THE RAT. 101959 13-03
- EFFECTS OF SCOPOLAMINE INJECTION DURING CS-US INTERVAL ON CONDITIONING. 105766 13-04
- ACCIDENTAL CONDITIONING WITH CHRONIC METHAMPHETAMINE INTOXICATION: IMPLICATIONS FOR A THEORY OF DRUG HABITUATION. 110187 13-04
- EFFECT OF P-CHLOROPHENYLALANINE ON AVOIDANCE CONDITIONING AND ITS INTERACTION WITH AMPHETAMINE. 110960 13-03
- MODIFICATION OF AN OPERANT CONDITIONING IN RAT AFTER A SUBCUTANEOUS INJECTION OF HISTAMINE. 119914 13-04
- CONDITIONS**
- OXAZEPAM IN ALLERGIC CONDITIONS. 073607 13-11
- A SURVEY OF PRESCRIBING PATTERNS IN COMMON PSYCHIATRIC CONDITIONS. 086525 13-17
- EFFECTS OF DIAZEPAM ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS. 104138 13-04
- THE EFFECTS OF TWO TETRAHYDROCANNABINOLS, (DELTA9-THC AND DELTA8-THC) ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS. 106393 13-04
- INTERACTION OF PERSONALITY AND TREATMENT CONDITIONS ASSOCIATED WITH SUCCESS IN A SMOKING CONTROL PROGRAM. 108268 13-17
- EFFECT OF CHLORPROMAZINE AND PHENAMINE ON THE BASAL METABOLISM AND CONDITIONED REFLEX ACTIVITY IN RATS UNDER STRESS CONDITIONS. 113521 13-03
- CONDUCTANCE**
- THE EFFECTS OF PHENOTHIAZINE MEDICATION ON SKIN CONDUCTANCE AND HEART RATE IN SCHIZOPHRENIC PATIENTS. 085015 13-08
- SLOW SYNAPTIC EXCITATION: EVIDENCE FOR SYNAPTIC INACTIVATION OF POTASSIUM CONDUCTANCE (UNPUBLISHED PAPER). 094923 13-03
- CONFLICT**
- EFFECTS OF PSYCHOACTIVE DRUGS ON CONFLICT AVOIDANCE BEHAVIOR IN HUMAN SUBJECTS. 086572 13-14
- EFFECTS OF CONFLICT AND STRESS ON ALCOHOL INTAKE IN RATS. 101758 13-04
- MODIFICATION OF CONFLICT BEHAVIOR BY PRIOR EXPERIENCE: EFFECTS OF SCHEDULING AND PENTOBARBITAL. 103652 13-04
- MODIFICATION OF CONFLICT BEHAVIOR BY PRIOR EXPERIENCE: EFFECTS OF TRAINING AND MORPHINE. 104325 13-04
- A SIMPLE AND RELIABLE CONFLICT PROCEDURE FOR TESTING ANXIETY AGENTS. 124108 13-04
- CONGENERS**
- STRUCTURE ACTIVITY RELATIONSHIPS OF NORMEPERIDINE CONGENERS ON CHOLINESTERASE SYSTEMS IN VITRO AND ANALGESIA IN VIVO. 086822 13-03
- CONGENITAL**
- CHARACTEROPATHIC CHANGES AND EXPRESSIVE APHASIA IN A CHILD WITH CONGENITAL AGENESIS OF THE SEPTUM PELLUCIDUM. 122951 13-11
- CONSCIOUS**
- EFFECT OF ESERINE INJECTED INTRAVENTRICULARLY ON BEHAVIOUR AND ON ACTIVITY OF CHOLINESTERASE IN SOME STRUCTURES OF THE CEREBRAL VENTRICLES OF THE CONSCIOUS CAT. 106424 13-04
- NEUROPHYSIOLOGICAL EFFECTS OF DIFFERENT ANESTHETICS IN CONSCIOUS MAN. 111344 13-13
- EFFECT OF DRUGS USED IN STATUS-EPILEPTICUS ON THE POTASSIUM FLUXES OF CEREBROSPINAL FLUID IN THE CONSCIOUS DOG. 120412 13-03
- CONSCIOUSNESS**
- ALTERED STATES OF CONSCIOUSNESS: AN EXPERIMENTAL CASE STUDY. 090690 13-12
- CONSISTENT**
- AMOBARBITAL VS SALINE EXTINCTION FOLLOWING DIFFERENT MAGNITUDES OF CONSISTENT REINFORCEMENT. 078449 13-04
- A PROPOSAL FOR A CONSISTENT NIGHT THERAPY FOR THE MENTAL PATIENT, CONJOINTLY, A CAUSISTIC CONTRIBUTION TO A DAY NIGHT THERAPY FOR DEPRESSIONS WITH PSYCHOTROPIC DRUGS. 089087 13-09
- CONSOLIDATION**
- THE EFFECT OF PHYSOSTIGMINE ON THE PERCEPTION AND CONSOLIDATION PHASE OF MEMORY AND LEARNING IN ALCOHOLICS. 105917 13-14
- CONSTITUENTS**
- PEYOTE CONSTITUENTS: CHEMISTRY, BIOGENESIS, AND BIOLOGICAL EFFECTS. 069047 13-12
- TOXICOLOGY AND TERATOLOGY OF MARIJUANA AND CONSTITUENTS (UNPUBLISHED PAPER). 093551 13-05
- CANNABINOID CONSTITUENTS OF MALE AND FEMALE CANNABIS-SATIVA. 098556 13-01
- COMBINATION OF MEPROBAMATE AND BEHACTYZINE (DEPOL) AND CONSTITUENTS IN NEUROTIC DEPRESSED OUTPATIENTS. 100208 13-10
- CONSUMMATORY**
- CONSUMMATORY BEHAVIOR DURING TOLERANCE TO AND WITHDRAWAL FROM CHRONIC DEPRESSION OF CHOLINESTERASE ACTIVITY. 102094 13-04
- CONSUMPTION**
- EFFECT OF PITRESSIN ON VOLUNTARY ALCOHOL CONSUMPTION IN THE RAT. 102868 13-04
- THE EFFECTS OF CHRONIC DOSES OF TRICYANOAMINOPROPENE ON WATER CONSUMPTION IN THE RAT. 105078 13-04
- CONTINGENT**
- CHOLINERGIC MECHANISM DETERMINES THE OCCURRENCE OF REWARD CONTINGENT POSITIVE VARIATION (RCPV) IN CAT. 088543 13-03
- FACTORS AFFECTING BEHAVIOR MAINTAINED BY RESPONSE CONTINGENT INTRAVENOUS INFUSIONS OF AMPHETAMINE IN SQUIRREL MONKEYS. 089060 13-04
- EEG, EVOKED POTENTIAL, AND CONTINGENT NEGATIVE VARIATIONS WITH LITHIUM IN MANIC DEPRESSIVE DISEASE. 097458 13-09
- A CONTINGENT POSITIVE VARIATION. 121102 13-17
- CONTRACEPTION**
- PSYCHOSIS INDUCED BY ORAL CONTRACEPTION. 089329 13-15
- CONTRACEPTIVES**
- ORAL CONTRACEPTIVES, DEPRESSION, AND LIBIDO. 100131 13-15
- CONTRACTILE**
- DIFFERENTIAL ANTAGONISM BETWEEN DMAE (A HEMICHOLINIUM DERIVATIVE) AND ATROPINE ON CONTRACTILE RESPONSES OF THE RAT ILEUM. 104327 13-03
- THE INFLUENCE OF SOME SELECTED PSYCHOACTIVE DRUGS ON THE SPONTANEOUS CONTRACTILE ACTIVITY OF THE ISOLATED MURINE PORTAL VEIN. 104964 13-03
- CONTRACTILITY**
- THE EFFECT OF INTRAVENOUS ETHYL-ALCOHOL ON THE CORONARY CIRCULATION AND MYOCARDIAL CONTRACTILITY OF THE HUMAN AND CANINE HEART. 087032 13-13
- CONTRAST**
- BEHAVIORAL CONTRAST: AN UNLOCALIZED EFFECT OF A LOCAL ANESTHETIC. 106688 13-04
- CONTROL**
- PROGESTERONE ESTROGEN INTERACTIONS IN THE CONTROL OF ACTIVITY WHEEL RUNNING IN THE FEMALE RAT. 086683 13-14
- AMOBARBITAL AND THE PARTIAL REINFORCEMENT EFFECT IN RATS: ISOLATING FRUSTRATIVE CONTROL OVER INSTRUMENTAL RESPONDING. 097414 13-14
- NEUROENDOCRINE CONTROL OF THE ADENOSINE 3,5 - MONOPHOSPHATE SYSTEM OF BRAIN AND PINEAL GLAND. (UNPUBLISHED PAPER). 099967 13-03
- STIMULUS CONTROL DURING CHRONIC REDUCTION OF CHOLINESTERASE ACTIVITY. 102095 13-04
- PROLONGED TREATMENT WITH MORPHINE IN RATS: DRUG/BEHAVIOR INTERACTION UNDER AVERSIVE CONTROL. 103954 13-04

- INTERACTIONS BETWEEN NALOXONE AND CHLORPROMAZINE ON BEHAVIOR UNDER SCHEDULE CONTROL. 104826 13-03
- RESULTS OF LITHIUM TREATMENT OF MANIC-DEPRESSIVE PSYCHOSIS IN COMPARISON WITH THE CONTROL GROUP. 105830 13-09
- INTERACTION OF PERSONALITY AND TREATMENT CONDITIONS ASSOCIATED WITH SUCCESS IN A SMOKING CONTROL PROGRAM. 108268 13-17
- INCREASE IN FINE MOTOR CONTROL IN PARKINSON PATIENTS FOLLOWING LEVODOPA. 108473 13-11
- GENETIC CONTROL OF NORTRIPTYLINE KINETICS IN MAN - A STUDY OF RELATIVES OF PROPOSITI WITH HIGH PLASMA CONCENTRATION. 122578 13-13
- CONTROLLED**
- TREATMENT OF HOSPITALIZED ALCOHOLICS WITH DOXEPIN AND DIAZEPAM: A CONTROLLED STUDY. 073606 13-11
- CLOMACRAN AND CHLORPROMAZINE IN PSYCHOTIC OUTPATIENTS: A CONTROLLED STUDY. 086521 13-08
- A CONTROLLED STUDY OF MESORIDAZINE: AN EFFECTIVE TREATMENT FOR SCHIZOPHRENIA. 087267 13-08
- A CONTROLLED CLINICAL STUDY OF A NEW ANTIDEPRESSANT (TRAZODONE). 089066 13-10
- CONTROLLED TRIAL OF SULPIRIDE IN PSYCHIATRY. 090792 13-14
- EFFECTS OF 1-DELTA-9 AND 1-DELTA-8-TRANS-TETRAHYDROCANNABINOL AND CANNABINOL ON SCHEDULE CONTROLLED BEHAVIOR OF PIGEONS AND RATS. 094255 13-04
- CONTROLLED TRIAL OF AMANTADINE HYDROCHLORIDE IN PARKINSONS DISEASE. 095622 13-11
- CLINICAL INVESTIGATION OF DOXEPIN IN DEPRESSED PATIENTS. PILOT OPEN STUDY. CONTROLLED DOUBLE-BLIND TRIAL VERSUS IMIPRAMINE, AND ALL-NIGHT POLYGRAPHIC STUDY. 099031 13-10
- TROXONIUM TASYLATE IN DRUG-INDUCED PARKINSONISM: A CONTROLLED COMPARATIVE STUDY. 100260 13-07
- A DOUBLE-BLIND CONTROLLED TRIAL OF THIOXIXENE AND PERPHENAZINE IN CHRONIC SCHIZOPHRENICS SHOWN TO REQUIRE MAINTENANCE THERAPY. 100807 13-08
- DEVELOPMENT OF BEHAVIORAL TOLERANCE TO MORPHINE AND METHADONE USING THE SCHEDULE CONTROLLED BEHAVIOR OF THE PIGEON. 104809 13-04
- FLUPHENAZINE ENANTHATE IN THE TREATMENT OF CHRONIC PSYCHOTIC PATIENTS: A CONTROLLED CLINICAL STUDY. 105673 13-08
- MULTIHOSPITAL CONTROLLED COMPARISON OF THE THERAPEUTIC EFFECTS OF FOUR ANTIDEPRESSANTS. 105833 13-09
- CONTROLLED COMPARISON OF THE THERAPEUTIC EFFECT OF TRIMEPROPRIMINE AND AMITRIPTYLINE. 105835 13-11
- A CONTROLLED STUDY OF LITHIUM VS. CHLORPROMAZINE IN ACUTE SCHIZOPHRENICS. 105885 13-08
- CONTROLLED TRIAL OF THE TREATMENT OF 36 STUTTERERS. 107595 13-11
- CONTROLLED TRIAL OF PENFLURIDOL IN ACUTE PSYCHOSIS. 111694 13-09
- A CONTROLLED COMPARISON OF DRUG EFFECTS ON ESCAPE FROM CONDITIONED AVERSIVE STIMULATION (ANXIETY) AND FROM CONTINUOUS SHOCK. 112313 13-04
- CONTROLLING**
- SOME FACTORS CONTROLLING ORAL MORPHINE INTAKE IN RATS. 102195 13-04
- NEW POSSIBILITIES OF CONTROLLING STATES OF UNREST OF A PSYCHOMOTOR OR CEREBROSCIENTIFIC NATURE IN INSTITUTIONAL GERIATRICS. 102383 13-11
- CONTROLS**
- URINARY STUDIES OF SCHIZOPHRENICS AND CONTROLS. 097447 13-13
- CONVALESCING**
- COMPARISON OF PRAZEPAM AND PLACEBO IN THE TREATMENT OF CONVALESCING NARCOTIC ADDICTS. 100259 13-14
- CONVICTS**
- AND THE PRISONERS WILL BECOME PRIESTS: THE CONVICTS BREAK OUT. 073413 13-12
- CONVULSIONS**
- THE INEFFECTIVENESS OF DIPHENYHYDANTOIN IN PREVENTING FEBRILE CONVULSIONS IN THE AGE OF GREATEST RISK, UNDER THREE YEARS. 100844 13-11
- PHENOBARBITAL AS PROPHYLAXIS FOR FEBRILE CONVULSIONS: A PRELIMINARY REPORT. 100845 13-11
- CHANGES IN FREE FATTY ACIDS OF BRAIN BY DRUG-INDUCED CONVULSIONS, ELECTROSHOCK AND ANESTHESIA. 100868 13-03
- ANTAGONISM OF INTRACEREBRALLY INDUCED NICOTINIC CONVULSIONS IN MICE: A METHOD FOR MEASURING THE CENTRAL ANTIMICOTINIC ACTIVITY OF CNS ACTING AGENTS. 104807 13-06
- COPPER**
- COPPER SALTS IN TREATMENT OF SCHIZOPHRENIA AND THEIR EFFECT ON INSULIN THERAPY. 113429 13-08
- COPULATORY**
- COPULATORY BEHAVIOR OF MALE RATS FOLLOWING RESERPINE ADMINISTRATION. 073485 13-04
- CORD**
- EFFECT OF MORPHINE ON THE PRESYNAPTIC AND POSTSYNAPTIC INHIBITIONS IN THE SPINAL CORD. 082788 13-03
- ACTIONS OF MORPHINE AND NARCOTIC ANTAGONIST ANALGESICS ON THE SPINAL CORD OF ACUTE AND CHRONIC SPINAL RATS. 098305 13-03
- ACTION OF DIAZEPAM ON THE SPINAL CORD. 106148 13-03
- EFFECTS OF SOME NARCOTIC ANALGESICS UPON THE MONOSYNAPTIC REFLEX INHIBITION FROM MUSCULAR AND CUTANEOUS AFFERENTS IN SPINAL CORD OF THE CAT. 125327 13-03
- COREXIMINE**
- OPIMUM ALKALOIDS IX. DETECTION OF COREXIMINE IN PAPAVER. SOMNIFERUM L. BASED ON ITS BIOSYNTHESIS FROM RETICULINE. 086577 13-01
- CORONARY**
- THE EFFECT OF INTRAVENOUS ETHYL-ALCOHOL ON THE CORONARY CIRCULATION AND MYOCARDIAL CONTRACTILITY OF THE HUMAN AND CANINE HEART. 087032 13-13
- CORRELATION OF CHEMICAL STRUCTURE OF PHENOTHIAZINES WITH THEIR CORONARY DILATOR AND ANTIARRHYTHMIC ACTIVITIES. 120929 13-03
- CORPUS-STRIATUM**
- BEHAVIORAL EFFECTS OF DOPAMINE AND P-HYDROXYAMPHETAMINE INJECTED INTO CORPUS-STRIATUM OF RATS. 085234 13-04
- EFFECTS OF NIGRAL LESION AND CHLORPROMAZINE TREATMENT ON TYROSINE HYDROXYLASE ACTIVITY IN CORPUS-STRIATUM OF THE RAT. 123281 13-03
- CORRECTOR**
- PSYCHIATRY AND IMMUNOLOGY: CONTRIBUTION OF THE EXPERIMENTAL STUDY OF THE IMMUNODEPRESSANT EFFECT OF A CORRECTOR OF EXTRAPYRAMIDAL SYNDROMES INDUCED BY NEUROLEPTICS. ETHYLBENZATROPINE. 100604 13-11
- CORRELATE**
- AN ATTEMPT TO CORRELATE THE EFFECT OF IMIPRAMINE AND OF AMITRIPTYLINE WITH SOME GENETIC CHARACTERISTICS. 086077 13-13
- CORRELATED**
- EFFECTS OF SCOPOLAMINE ON HIPPOCAMPAL THETA AND CORRELATED DISCRIMINATION PERFORMANCE. 102390 13-04
- CORRELATES**
- NEURO-PHYSIOLOGICAL CORRELATES OF AFFECTIVE DISORDERS. 095943 13-13
- PSYCHOPHYSIOLOGIC CORRELATES OF MSH ACTIVITY IN MAN. 106761 13-14
- SOME PHARMACOLOGIC CORRELATES TO MARIJUANA USE. (UNPUBLISHED PAPER). 107886 13-15
- CORRELATION**
- LABORATORY PREDICTIONS OF INFANTILE AUTISM BASED ON 5-HYDROXYTRYPTAMINE EFFLUX FROM BLOOD PLATELETS AND THEIR CORRELATION WITH THE RIMLAND E-2 SCORE. 082634 13-13
- CORRELATION BETWEEN THE EXPERIMENTAL DATA FROM ANIMAL STUDIES AND THERAPEUTICAL EFFECTS OF ANTIDEPRESSANT DRUGS. 104435 13-09

- CORRELATION OF THE RECOVERY OF THE GRANULAR UPTAKE STORAGE MECHANISM AND THE NERVE IMPULSE INDUCED RELEASE OF (3H)NORADRENALINE AFTER RESERPINE. 120819 13-03
- CORRELATION OF CHEMICAL STRUCTURE OF PHENOTHIAZINES WITH THEIR CORONARY DILATOR AND ANTIARRHYTHMIC ACTIVITIES. 120929 13-03
- CORRELATIONS**
- CL-67772: A PRELIMINARY EVALUATION OF A POTENTIAL ANTIDEPRESSANT COMPOUND: ANIMAL AND HUMAN CORRELATIONS. 086893 13-11
- DOUBLE-BLIND STUDY ON THE CORRELATIONS OF URINARY ELIMINATION OF CATECHOLAMINES AND THEIR METABOLITES (SUPPOSED TO COME THROUGH ADRENOCROME, NORADRENOCROME AND DOPACHROME) WITH CLINICAL STATE OF 50 PATIENTS UNDER DIFFERENT PSYCHOPHARMACOLOGIC DRUG. 087003 13-13
- CORTEX**
- ENHANCED AMPHETAMINE RESPONSES AFTER FRONTAL CORTEX LESIONS IN THE RAT. 073309 13-04
- EFFECTS OF SEPTAL AREA AND CINGULATE CORTEX LESIONS ON OPIATE ADDICTION BEHAVIOR IN RATS. 085333 13-04
- CEREBRAL LYSOSOMES. VI. THE IN VIVO UPTAKE OF TRITON-WR-1339 BY THE LYSOSOMES OF THE IMMATURE CEREBRAL CORTEX AND CEREBELLUM. 088285 13-03
- EFFECTS OF NARCOTIC ANALGESICS AND ANTAGONISTS ON THE IN VIVO RELEASE OF ACETYLCHOLINE FROM THE CEREBRAL CORTEX OF THE CAT. 104537 13-03
- THE EFFECTS OF ESERINE AND ATROPINE ON THE EPILEPTIFORM ACTIVITY OF CHRONICALLY ISOLATED CORTEX. 106065 13-03
- EFFECTS OF SOME SYMPATHOMIMETIC DRUGS AND THEIR ANTAGONIST ON AFTERDISCHARGES ELICITED IN CHRONICALLY ISOLATED SLABS OF CEREBRAL CORTEX. 108793 13-03
- MESCALINE INDUCED CHANGES OF BRAIN CORTEX RIBOSOMES. EFFECT OF MESCALINE ON AMINO ACID INCORPORATING ABILITY OF RIBOSOMES. 109418 13-03
- EFFECT OF NEMBUTAL ON THE INHIBITORY WAVE OF ANTIDROMICALLY INDUCED POTENTIAL IN THE MOTOR CORTEX OF THE CAT. 111336 13-03
- CHANGES IN THE REACTIVITY OF NEURONS OF THE PROJECTION CORTEX UNDER THE EFFECT OF NEMBUTAL. 111816 13-03
- CORTICAL**
- THE INFLUENCE OF HYPNOTICS AND TRANQUILLIZERS ON SOME EVOKED CORTICAL POTENTIALS. 082760 13-03
- EFFECT OF TRICYCLIC ANTIDEPRESSANTS ON MONOAMINE RESPONSES OF SINGLE CORTICAL NEURONES. 087359 13-03
- EFFECT OF MESCALINE ON SINGLE CORTICAL NEURONES. 108796 13-03
- EFFECTS OF MESCALINE AND NEMBUTAL ON CORTICAL AND RETINAL LIGHT EVOKED RESPONSES IN THE CAT. (PH.D.DISSERTATION). 109622 13-03
- EFFECT OF NEUROTROPIC DRUGS ON CORTICAL EVOKED POTENTIALS. 113480 13-03
- THE UPTAKE OF MORPHINE BY THE CHOROID PLEXUS AND CEREBRAL CORTICAL SLICES OF ANIMALS CHRONICALLY TREATED WITH MORPHINE. 122543 13-03
- CORTICO-CORTICAL**
- EFFECTS OF TWO TETRAHYDROCANNABINOLS AND OF PENTOBARBITAL ON CORTICO-CORTICAL EVOKED RESPONSES IN THE SQUIRREL MONKEY. 082720 13-03
- CORTICOSTEROIDS**
- CROHNS DISEASE: TREATMENT BY CORTICOSTEROIDS, ANTIBIOTICS AND PSYCHOTHERAPY. 100854 13-11
- CORTICOSTERONE**
- CORTICOSTERONE ELEVATION MEDIATED CENTRALLY BY DELTA1-TETRAHYDROCANNABINOL IN RATS. 079430 13-03
- PLASMA CORTICOSTERONE CHANGES FOLLOWING ALTERATIONS IN BRAIN NOREPINEPHRINE AND SEROTONIN. 098290 13-03
- CORTISOL**
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: A STUDY OF THE ADRENOCORTICAL RESPONSE TO INTRAVENOUSLY ADMINISTERED INSULIN AND ACTH. 091370 13-08
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA. 105600 13-08
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: CHANGES IN THE DIURNAL RHYTHM AND PSYCHIATRIC MENTAL STATUS ON WITHDRAWAL OF DRUGS. 106050 13-08
- COUNTING**
- INTERFERENCE OF CHEMOLUMINESCENCE WITH 3H SCINTILLATION COUNTING. 105405 13-06
- CPZ**
- CRITICAL REVIEW OF ANNE E. CALDWELL'S ORIGINS OF PSYCHOPHARMACOLOGY FROM CPZ TO LSD. 105554 13-17
- CREATINE**
- PYREXIA AND RAISED SERUM CREATINE PHOSPHOKINASE AFTER AMYLOBARBITONE. 086511 13-15
- EFFECTS OF ISOPROTERENOL ON RAT PLASMA CREATINE PHOSPHOKINASE ACTIVITY. 106150 13-03
- CHLORPROMAZINE INDUCED HYPOTHERMIA AND INCREASED PLASMA CREATINE PHOSPHOKINASE ACTIVITY. 108280 13-03
- RELEASE OF CREATINE PHOSPHOKINASE FROM MUSCLE - 1. EFFECT OF POLYMYXIN B, COMPOUND 48/80, AND SEROTONIN. 108719 13-05
- CRIMINAL**
- HALOPERIDOL IN 60 CRIMINAL PSYCHOTICS. 079232 13-07
- CRISES**
- OUTLINES OF THE MANAGEMENT OF COMMON PSYCHIATRIC CRISES AND EMERGENCIES IN THE COMMUNITY. 096018 13-17
- HYPERTENSIVE CRISES DURING MAO THERAPY. 111128 13-15
- CRITERIA**
- PART 1. IMPROVEMENT CRITERIA IN DRUG TRIALS WITH NEUROTIC PATIENTS. 108484 13-10
- THE APOMORPHINE ANTAGONISM TEST IN DOGS: EXPERIMENTAL EVIDENCE AND CRITICAL CONSIDERATIONS ON SPECIFIC METHODOLOGICAL CRITERIA. 121221 13-06
- CROHNS**
- CROHNS DISEASE: TREATMENT BY CORTICOSTEROIDS, ANTIBIOTICS AND PSYCHOTHERAPY. 100854 13-11
- CROSS**
- STUDIES OF THE SPONTANEOUS MOVEMENT OF ANIMALS BY THE HOLE CROSS TEST; EFFECT OF 2-DIMETHYLAMINOETHANOL AND ITS ACYL ESTERS ON THE CENTRAL NERVOUS SYSTEM. 120930 13-03
- CROSS-GENERATIONAL**
- CROSS-GENERATIONAL EFFECTS RESULTING FROM AN EARLY MATERNAL CHRONIC DRUG EXPERIENCE. 104173 13-04
- CROSS-TOLERANCE**
- INTERACTION AND ACUTE CROSS-TOLERANCE BETWEEN ETHANOL AND HEXOBARBITONE IN THE RAT. 087344 13-04
- CROSS-TOLERANCE BETWEEN METHYLAMPHETAMINE AND MORPHINE IN THE MOUSE. 106427 13-03
- CROSS-TOLERANCE BETWEEN P-METHOXYPHENYLETHYLAMINE (PMEA), 3,4 DEMETHOXYPHENYLETHYLAMINE (DMPMA) AND P-BROMOMETHOAMPHETAMINE (PBMA, V111). 123270 13-04
- CROSSOVER**
- TREATING ANXIETY AND DEPRESSION IN THE ELDERLY: A DOUBLE-BLIND CROSSOVER EVALUATION OF TWO WIDELY USED TRANQUILLIZERS. 079011 13-11
- CRYOGENINE**
- COMPARATIVE PSYCHOPHARMACOLOGIC INVESTIGATION OF CRYOGENINE, CERTAIN NONSTEROID ANTIINFLAMMATORY COMPOUNDS, LUPINE ALKALOIDS AND CYPROHEPTADINE. 091281 13-02
- CRYSTAL**
- THE CRYSTAL STRUCTURE OF L-DOPA HYDROCHLORIDE. DIHYDROXYPHENYLALANINE HYDROCHLORIDE. C9H12O4NCL. 113974 13-01
- CRYSTALLINE**
- DIFFERENT EFFECT OF CHLORPROMAZINE ON THE ACTIVITY OF CRYSTALLINE LACTIC DEHYDROGENASE ISOENZYMES. 108717 13-03

## Subject Index

- CS-US**  
EFFECT OF CHLORPROMAZINE ON CONDITIONED AVOIDANCE AS A FUNCTION OF CS-US INTERVAL LENGTH. 104579 13-04  
EFFECTS OF SCOPOLAMINE INJECTION DURING CS-US INTERVAL ON CONDITIONING. 105766 13-04
- CS-370**  
THE SAFETY TEST OF 10-CHLORO-11B-(2-CHLOROPHENYL)-2,3,5,6,7,11B-HEXAHYDROBENZO(6,7) 1,4 DIAZEPINOXAZOLONE (CS-370) - II. EFFECT OF CS-370 UPON THE DEVELOPMENT OF PRE-NATAL AND POST-NATAL OFFSPRINGS OF EXPERIMENTAL ANIMALS. 116154 13-03  
THE SAFETY TEST OF 10-CHLORO-11B-(2-CHLOROPHENYL)-2,3,5,6,7,11 HEXAHYDROBENZODIAZEPINOXAZOLONE (CS-370). 116383 13-15
- CUE**  
CUE VALUE OF DEXAMETHASONE FOR FEAR MOTIVATED BEHAVIOR. 079066 13-04
- CULTURE**  
EFFECT OF NOREPINEPHRINE ON THE CONCENTRATION OF ADENOSINE 3,5 MONOPHOSPHATE OF RAT PINEAL GLAND IN ORGAN CULTURE. (UNPUBLISHED PAPER). 106059 13-03  
TOXIC EFFECT OF LSD-25 ON A CULTURE OF KIDNEY CELLS FROM CERCOPIHUS AETHIOPS MONKEYS. 125418 13-05
- CULTURED**  
CHOLINE ACETYLTRANSFERASE AND ACETYLCHOLINESTERASE IN CULTURED BRAIN CELLS FROM CHICK EMBRYOS. 079663 13-03
- CULTURES**  
CYTOGENETIC EFFECTS OF ETHANOL IN HUMAN LEUKOCYTE CULTURES. 086699 13-13  
STIMULATION OF (14C) SEROTONIN SYNTHESIS FROM (14C) TRYPTOPHAN BY Mescaline IN RAT PINEAL ORGAN CULTURES. 088702 13-03  
NOREPINEPHRINE STIMULATED INCREASE OF CYCLIC AMP LEVELS IN DEVELOPING MOUSE BRAIN CELL CULTURES. 100103 13-03  
THE VIOLET PIGMENT OF LYSERGIC ACID ALKALOID PRODUCING CULTURES OF CLAVICEPS-PASPALI: FERRIC COMPLEX OF 2,3 DIHYDROXYBENZOIC ACID. 100171 13-01
- CUPRIC**  
USE OF CERIC SULFATE AND CUPRIC PERCHLORATE FOR TITRIMETRIC ANALYSES OF PHENOTHIAZINE DERIVATIVES. 082763 13-06
- CUTANEOUS**  
A CUTANEOUS SIDE-EFFECT OF LITHIUM: REPORT OF TWO CASES. 107444 13-15  
EFFECTS OF SOME NARCOTIC ANALGESICS AND RELATED COMPOUNDS UPON THE EXTENSOR MONOSYNAPTIC REFLEX INHIBITION FROM CUTANEOUS NERVE AND HIGH THRESHOLD MUSCLE AFFERENTS. 125324 13-03  
EFFECTS OF SOME NARCOTIC ANALGESICS UPON THE MONOSYNAPTIC REFLEX INHIBITION FROM MUSCULAR AND CUTANEOUS AFFERENTS IN SPINAL CORD OF THE CAT. 125327 13-03
- CYCLANDELTATE**  
THE USE OF CYCLANDELTATE IN CHRONIC BRAIN SYNDROME WITH ARTERIOSCLEROSIS. 100536 13-11
- CYCLASE**  
EFFECTS OF LITHIUM ON BRAIN ADENYL CYCLASE ACTIVITY. 105707 13-03
- CYCLAZOCINE**  
COMPARISON OF THE EFFECTS OF CYCLAZOCINE AND IMIPRAMINE ON THE CIRCADIAN SLEEP WAKING CYCLE OF THE CAT. 121220 13-05
- CYCLE**  
ACTION OF A BENZODIAZEPINE DERIVATIVE, RO-5-4200, ON THE EEG AND SLEEP CYCLE IN PATIENTS WITH INSOMNIA. 098662 13-07  
REINVESTIGATION OF THE EFFECTS OF GAMMA-HYDROXYBUTYRATE ON THE SLEEP CYCLE OF THE UNRESTRAINED INTACT CAT. 109621 13-03  
COMPARISON OF THE EFFECTS OF CYCLAZOCINE AND IMIPRAMINE ON THE CIRCADIAN SLEEP WAKING CYCLE OF THE CAT. 121220 13-05
- CYCLIC**  
MODIFICATION BY PSYCHOTROPIC DRUGS OF THE CYCLIC ADENOSINE MONOPHOSPHATE RESPONSE TO NOREPINEPHRINE IN RAT BRAIN. 082864 13-03  
NOREPINEPHRINE STIMULATED INCREASE OF CYCLIC AMP LEVELS IN DEVELOPING MOUSE BRAIN CELL CULTURES. 100103 13-03

## Psychopharmacology Abstracts

- PLASMA MONOAMINE OXIDASE ACTIVITY IN REGULARLY MENSTRUATING WOMEN AND IN AMENORRHEIC WOMEN RECEIVING CYCLIC TREATMENT WITH ESTROGENS AND A PROGESTIN. 104616 13-13  
A METHOD FOR DETECTING INTRACELLULAR CYCLIC ADENOSINE MONOPHOSPHATE BY IMMUNOFLOURESCENCE. (UNPUBLISHED PAPER). 107113 13-06  
EFFECTS OF PHENOTHIAZINE TRANQUILIZERS ON THE CYCLIC 3,5 ADENOSINE MONOPHOSPHATE SYSTEM OF RAT BRAIN. 107123 13-03
- CYCLING**  
EFFECT OF RESERPINE ON PLASMA LH LEVELS IN OVARIETOMIZED AND CYCLING PROESTRUS RATS. 125330 13-03
- CYCLOHEPTENE-5-CARBOXAMIDE**  
METABOLISM OF THE ANTICONVULSANT 10,11-DIHYDRO-5H-DIBENZO(A,D) CYCLOHEPTENE-5-CARBOXAMIDE - I. METABOLIC FATE OF (14C)CYCLOHEPTAMIDE IN ANIMALS AND MAN. 102735 13-13
- CYCLOHEXIMIDE**  
EFFECTS OF HYDROCORTISONE AND CYCLOHEXIMIDE ON BLOOD-BRAIN BARRIER FUNCTION IN THE RAT. 078949 13-03  
AMNESIC EFFECTS OF CYCLOHEXIMIDE ON TWO STRAINS OF MICE WITH DIFFERENT MEMORY CHARACTERISTICS. 082799 13-04  
CYCLOHEXIMIDE: ITS EFFECTS ON ACTIVITY ARE DISSOCIABLE FROM ITS EFFECTS ON MEMORY. 089015 13-04  
EFFECTS OF CYCLOHEXIMIDE ON RESTRICTED BEHAVIORAL PATTERNS OF MICE. 091225 13-04  
CYCLOHEXIMIDE INDUCED AMNESIA: ITS INTERACTION WITH DETENTION. 104796 13-04  
THE CYCLOHEXIMIDE INDUCED AMNESIA GRADIENT OF A PASSIVE AVOIDANCE TASK. 105075 13-04
- CYCLOHEXYLAMINES**  
CIS- AND TRANS-2-(3,4,5-TRIMETHOXYPHENYL)CYCLOHEXYLAMINES: N METHYL AND N,N DIMETHYL DERIVATIVES. 082764 13-01
- CYCLOOCTYL**  
EFFECTS OF MORPHOLINO, PYRROLIDINO, PIPERIZINO, AND CYCLOOCTYL DERIVATIVES OF BETA-ALANINE ON BRAIN AMINES AND AMINO ACIDS. 082729 13-04
- CYCLOPHRENIA**  
CASE OF THE CIRCULAR FORM OF CYCLOPHRENIA TREATED WITH LITHIUM CARBONATE FOR A PERIOD OF 4 YEARS. 118218 13-09
- CYCLOTHYMIC**  
LITHIUM PROPHYLAXIS OF CYCLOTHYMIC PSYCHOSES. 125991 13-09
- CYHEPTAMIDE**  
METABOLISM OF THE ANTICONVULSANT 10,11-DIHYDRO-5H-DIBENZO(A,D) CYCLOHEPTENE-5-CARBOXAMIDE - I. METABOLIC FATE OF (14C)CYHEPTAMIDE IN ANIMALS AND MAN. 102735 13-13
- CYPRENORPHINE**  
EFFECTS OF CYPRENORPHINE HYDROCHLORIDE ON SENSORY REINFORCEMENT IN THE RAT. 099685 13-04  
THE BEHAVIOURAL EFFECTS OF LEVALLORPHAN, CYPRENORPHINE (M-285) AND AMPHETAMINE ON REPEATED Y-MAZE PERFORMANCE IN RATS. 102190 13-04
- CYPROHEPTADINE**  
APPETITE STIMULATING AND WEIGHT GAIN PROPERTIES OF CYPROHEPTADINE (PERIACIN) IN GERIATRIC SUBJECTS. 074314 13-11  
COMPARATIVE PSYCHOPHARMACOLOGIC INVESTIGATION OF CRYOGENINE, CERTAIN NONSTEROID ANTIINFLAMMATORY COMPOUNDS, LUPINE ALKALOIDS AND CYPROHEPTADINE. 091281 13-02
- CYPROTERONE**  
CLINICAL AND EXPERIMENTAL PSYCHOLOGICAL INVESTIGATIONS OF THE EFFECT OF ANTIANDROGEN CYPROTERONE ACETATE IN SLIGHTLY IRRESPONSIBLE AND GROSSLY IRRESPONSIBLE SEXUAL DELINQUENTS. 088693 13-11  
ANTIANDROGEN THERAPY WITH CYPROTERONE ACETATE IN CHILD AND ADOLESCENT PSYCHIATRY. AN OVERVIEW OF RESULTS ACHIEVED. 125703 13-11
- CYSTOMANOMETRIC**  
CHANGES IN THE BLADDER AND SPHINCTER TONUS OF THE BLADDER BY MEANS OF THYMOPLECTICS: CYSTOMANOMETRIC STUDIES IN MAN. 122292 13-15

- CYTOGENETIC**  
CYTOGENETIC EFFECTS OF ETHANOL IN HUMAN LEUKOCYTE CULTURES.  
086699 13-13
- C9H12O4NCL**  
THE CRYSTAL STRUCTURE OF L-DOPA HYDROCHLORIDE,  
DIHYDROXYPHENYLALANINE HYDROCHLORIDE, C9H12O4NCL.  
113974 13-01
- D-AMPHETAMINE**  
EFFECTS OF STRAIN DIFFERENCES AND D-AMPHETAMINE SULFATE ON  
AVOIDANCE PERFORMANCE.  
078250 13-02  
A STUDY OF THE RELATIONSHIP BETWEEN THE VISUAL SYSTEM AND THE  
EFFECTS OF D-AMPHETAMINE.  
079067 13-04  
DIFFERENTIAL SENSITIVITY OF FRONTAL RATS TO D-AMPHETAMINE AND  
SCOPOLAMINE.  
082771 13-04  
STIMULANT ACTION OF D-AMPHETAMINE IN RELATION TO TEST  
COMPARTMENT DIMENSIONS AND BEHAVIORAL MEASURE.  
084901 13-04  
D-AMPHETAMINE AND PALATIBILITY OF A SACCHARIN SOLUTION.  
088071 13-04  
EFFECTS OF IMIPRAMINE, DESIPRAMINE AND MONOAMINE OXIDASE  
INHIBITORS ON THE METABOLISM AND PSYCHOMOTOR STIMULANT  
ACTIONS OF D-AMPHETAMINE IN MICE.  
089027 13-04  
THE EFFECTS OF CHLORPROMAZINE AND D-AMPHETAMINE ON THE  
ACQUISITION AND PERFORMANCE OF A CONDITIONED ESCAPE  
RESPONSE IN RATS.  
091532 13-03  
THE COMPARISON OF THE STEREOTYPED BEHAVIOR INDUCING EFFECTS  
OF D-AMPHETAMINE AND L-AMPHETAMINE IN DOGS.  
099110 13-04  
THE USE OF D-AMPHETAMINE WITH HYPERKINETIC CHILDREN.  
102187 13-14  
BEHAVIORAL AND EEG PATTERNS IN THE CAT COINCIDENT WITH  
SYSTEMATIC AND INTRACRANIAL STIMULATION WITH D-  
AMPHETAMINE SULFATE DURING A VISUAL DISCRIMINATION TASK.  
(PH.D. DISSERTATION).  
102635 13-03  
BEHAVIORAL EFFECTS OF D-AMPHETAMINE IN YOUNG CHICKS TREATED  
WITH P-CL-PHENYLALANINE.  
103953 13-04  
ON THE ROLE OF NOREPINEPHRINE IN THE ANORECTIC EFFECT OF D-  
AMPHETAMINE IN MICE.  
104326 13-03  
ANTAGONISM OF D-AMPHETAMINE INDUCED HYPERTHERMIA IN RATS  
BY PIMOZIDE.  
104472 13-03  
FACILITATION OR IMPAIRMENT OF LEARNING BY D-AMPHETAMINE AS A  
FUNCTION OF STIMULI.  
104795 13-04  
INHIBITION OF D-AMPHETAMINE HYPERTHERMIA BY BLOCKADE OF  
DOPAMINE RECEPTORS IN RABBITS.  
105404 13-03  
SOME 5-HYDROXYTRYPTAMINE-LIKE ACTIONS OF FENFLURAMINE: A  
COMPARISON WITH D-AMPHETAMINE AND DIETHYLPROPION.  
105413 13-04  
TWENTY-FOUR-HOUR PROACTIVE FACILITATION OF AVOIDANCE AND  
DISCRIMINATION LEARNING IN RATS BY D-AMPHETAMINE.  
106786 13-04  
A NEUROPSYCHOPHARMACOLOGICAL COMPARISON OF D-  
AMPHETAMINE, L-DOPA, AND COCAINE.  
107045 13-03  
CONTINUED AVERSION TO SACCHARIN BY SINGLE ADMINISTRATIONS OF  
MESCALINE AND D-AMPHETAMINE.  
107629 13-04  
EFFECT OF DIETHYLAMINOETHYL DIPHENYLPROPYLACETATE  
HYDROCHLORIDE (SKF-325A) ON THE NOREPINEPHRINE DEPLETING  
ACTIONS OF D-AMPHETAMINE.  
108286 13-03  
REBOUND FROM D-AMPHETAMINE.  
111207 13-14  
PARADOXICAL EFFECTS OF LOW DOSES OF D-AMPHETAMINE IN RATS.  
112315 13-04  
FACILITATING EFFECTS OF SOME CHLORPROMAZINE D-AMPHETAMINE  
MIXTURES ON AVOIDANCE LEARNING.  
124107 13-04
- D-CARBINE**  
THE BEHAVIORAL EFFECTS OF A NEW PSYCHOACTIVE DRUG (D-CARBINE)  
ON A PASSIVE AVOIDANCE RESPONSE AND LOCOMOTION AND ITS  
INTERACTION WITH AMPHETAMINE.  
124104 13-02
- D-LYSERGIC**  
BEHAVIORAL AND ELECTROGRAPHIC EFFECTS OF D-LYSERGIC ACID  
DIETHYLAMIDE (LSD-25) ON THE PHOTSENSITIVE PAPIO-PAPIO.  
086702 13-03
- EFFECT OF N,N DIMETHYLTRYPTAMINE AND D-LYSERGIC ACID  
DIETHYLAMIDE ON THE RELEASE OF 5-HYDROXYINDOLES IN RAT  
FOREBRAIN.  
095366 13-03
- UNEXPLAINED INHIBITORY ACTION OF D-LYSERGIC ACID DIETHYLAMIDE  
(LSD) ON POSTGANGLIONIC MOTOR TRANSMISSION IN THE GUINEA-  
PIG VAS-DEFERENS.  
109198 13-03
- D-PENICILLAMINE**  
MODE OF ACTION OF D-PENICILLAMINE IN CHRONIC SCHIZOPHRENIA.  
095150 13-08
- D-PROPRANOLOL**  
EFFECTS OF CHLORPROMAZINE, DL-PROPRANOLOL, AND D-PROPRANOLOL  
IN THE ISOLATED RAT HEART; MODIFICATION OF THE RESPONSE TO  
ISOPRENALINE AND GLUCAGON.  
120719 13-03
- D-1-PARA-CHLORO-N-METHYLAMPHETAMINE**  
CLINICAL TRIALS OF A GENUINE ANTIDEPRESSIVE AMPHETAMINE, THE D-  
1-PARA-CHLORO-N-METHYLAMPHETAMINE.  
097798 13-11
- D-40TA**  
PHARMACOLOGICAL STUDIES ON NEW POTENT CENTRAL DEPRESSANTS,  
8-CHLORO-6-PHENYL-4H-S-TRIAZOLOBENZODIAZEPINE (D-40TA) AND  
ITS 1 METHYL ANALOGUE (D-65MT).  
105392 13-02
- D-65MT**  
PHARMACOLOGICAL STUDIES ON NEW POTENT CENTRAL DEPRESSANTS,  
8-CHLORO-6-PHENYL-4H-S-TRIAZOLOBENZODIAZEPINE (D-40TA) AND  
ITS 1 METHYL ANALOGUE (D-65MT).  
105392 13-02
- DAILY**  
DAILY RHYTHMIC CHANGES IN HEPATIC PHENYLALANINE HYDROXYLASE  
ACTIVITY; ROLE OF DIETARY PHENYLALANINE.  
088557 13-03  
THE SAFETY OF A SINGLE DAILY DOSE SCHEDULE FOR IMIPRAMINE.  
099818 13-11  
DIURNAL VARIATION OF HEPATIC AMPHETAMINE CONCENTRATIONS IN  
MICE FED FREELY AND FED SINGLE DAILY MEALS.  
106425 13-03  
DAILY RHYTHMIC VARIATION AND LIVER DRUG METABOLISM IN RATS.  
120467 13-03
- DALMANE**  
EVALUATION OF A NEW HYPNOTIC AGENT: FLURAZEPAM  
HYDROCHLORIDE (DALMANE).  
099933 13-07
- DAMAGE**  
THE INFLUENCE OF SELECTIVE TEMPORAL LOBE DAMAGE ON BEHAVIOR  
AND THE RESPONSE TO LYSERGIC ACID DIETHYLAMIDE.  
073494 13-05  
NOREPINEPHRINE: REVERSAL OF ANOREXIA IN RATS WITH LATERAL  
HYPOTHALAMIC DAMAGE.  
077680 13-04  
POSSIBLE ETIOLOGY OF SCHIZOPHRENIA: PROGRESSIVE DAMAGE TO THE  
NORADRENERGIC REWARD SYSTEM BY 6-HYDROXYDOPAMINE.  
088491 13-04  
RENAL FUNCTIONAL DAMAGE DURING THE COURSE OF LITHIUM  
THERAPY: A CASE REPORT WITH RENAL BIOPSY FINDINGS.  
100206 13-15
- DANGERS**  
CLINICAL DANGERS OF PSYCHOLOGICAL THEORIZING: THE GILLES-DE-LA-  
TOURETTE SYNDROME.  
104558 13-17
- DANS**  
IDENTIFICATION OF BUFOTENIN IN TOAD BRAIN BY CHROMATOGRAPHY  
AND MASS SPECTROMETRY OF ITS DANS DERIVATIVE.  
098685 13-03
- DATA**  
POLYPHARMACY, DATA AND CONCLUSIONS.  
085689 13-08  
COURSE OF BODY TEMPERATURE IN NEUROLEPTIC INJECTION  
TREATMENTS: STATISTICAL EVALUATION OF RETROSPECTIVE DATA.  
098272 13-15  
CORRELATION BETWEEN THE EXPERIMENTAL DATA FROM ANIMAL  
STUDIES AND THERAPEUTICAL EFFECTS OF ANTIDEPRESSANT DRUGS.  
104435 13-09
- DATURA-INNOXIA**  
THE METABOLISM OF TRITIATED ATROPINE IN DATURA-INNOXIA.  
100169 13-03
- DAY**  
A PROPOSAL FOR A CONSISTENT NIGHT THERAPY FOR THE MENTAL  
PATIENT; CONJOINTLY, A CAUSISTIC CONTRIBUTION TO A DAY NIGHT  
THERAPY FOR DEPRESSIONS WITH PSYCHOTROPIC DRUGS.  
089067 13-09  
THE EFFECT OF STRYCHNINE ADMINISTRATION DURING DEVELOPMENT  
ON ADULT MAZE LEARNING IN THE RAT II: DRUG ADMINISTRATION  
FROM DAY 51 TO 70.  
104377 13-04

# Subject Index

# Psychopharmacology Abstracts

- DAYS**  
URINARY EXCRETION OF CHLORPROMAZINE AND CHLORPROMAZINE SULFOXIDE IN FOUR PATIENTS ON DIFFERENT DAYS. 086576 13-13
- DAYTIME**  
DIFFERENT EFFECTS OF TRIFLUOPERAZINE WHEN ADMINISTERED DAYTIME OR NIGHT. 107755 13-08
- DDT**  
ROLE OF BRAIN ACETYLCHOLINE AND DOPAMINE IN ACUTE NEUROTOXIC EFFECTS OF DDT. 099652 13-05  
BEHAVIORAL EFFECTS OF LOW DOSES OF DDT. 099850 13-04
- DEAMINATION**  
METABOLISM OF AMPHETAMINES TO OXIMES AS A ROUTE TO DEAMINATION. 087115 13-03  
OXIDATIVE METABOLISM OF Mescaline IN THE CENTRAL NERVOUS SYSTEM - II. OXIDATIVE DEAMINATION OF Mescaline AND 2,3,4-TRIMETHOXY-BETA-PHENYLETHYLAMINE BY DIFFERENT MOUSE BRAIN AREA IN VITRO. 102734 13-03  
PHENYLACETONE OXIME - AN INTERMEDIATE IN THE OXIDATIVE DEAMINATION OF AMPHETAMINE. 108398 13-03
- DEATH**  
THE PSYCHEDELIC MYSTICAL EXPERIENCE IN THE HUMAN ENCOUNTER WITH DEATH. 089185 13-12  
A PHYSICIAN'S RESPONSE TO THE PSYCHEDELIC EXPERIENCE IN THE DEATH ENCOUNTER. 089186 13-12
- DEBRISOQUINE**  
CATECHOLAMINE DEPLETION AND ADRENERGIC NEURONE BLOCKADE: STUDIES WITH DEBRISOQUINE. 104011 13-03  
DEBRISOQUINE, GUANETHIDINE, PROPRANOLOL AND HUMAN SLEEP. 110189 13-14
- DECANOATE**  
METABOLISM, DISTRIBUTION AND EXCRETION OF FLUPENTHIXOL DECANOATE IN DOGS AND RATS. 098615 13-03  
DECANOATE OF FLUPHENAZINE, A NEUROLEPTIC WITH RETARDED ACTION, IN THE TREATMENT OF SCHIZOPHRENIA. 098982 13-08  
EEG CHANGES AFTER FLUPHENAZINE ENANTHATE AND DECANOATE BASED ON ANALOG POWER SPECTRA AND DIGITAL COMPUTER PERIOD ANALYSIS. 105009 13-13  
THE CONTRIBUTION OF FLUPHENAZINE ENANTHATE AND DECANOATE IN THE PREVENTION OF READMISSION OF SCHIZOPHRENIC PATIENTS. 115399 13-08
- DECARBOXYLASE**  
CLINICAL OBSERVATIONS ON THE COMPOSITE TREATMENT OF PARKINSON'S SYNDROME WITH L-DOPA AND THE DECARBOXYLASE INHIBITOR RO-4-4602. 125996 13-11
- DECARBOXYLATION**  
DECARBOXYLATION OF RADIOACTIVE DOPA BY ERYTHROCYTES IN SCHIZOPHRENIA. 100598 13-14
- DECEREBRATE**  
ACTIVITY OF MAJOR ANALGESICS ON MOTOR NOCICEPTIVE RESPONSES IN DECEREBRATE MICE. 105010 13-03
- DECISION**  
DECISION PROCESSES IN ESTABLISHING THE EFFICACY AND SAFETY OF PSYCHOTROPIC AGENTS. 095534 13-17
- DECLINE**  
DECLINE IN THE MEAN INTEGRATED ELECTROENCEPHALOGRAPH VOLTAGE DURING MORPHINE ABSTINENCE IN THE RAT. 086106 13-03
- DECLINING**  
PRELIMINARY COMMUNICATION: I. DECLINING DOSE DRUG DESENSITIZATION FOR PHOBIA. 100736 13-10
- DECOMPENSATION**  
CHLORPROTHIXENE ENFORCED SLEEP FOR NEWLY ADMITTED PATIENTS WITH ACUTE MENTAL DECOMPENSATION. 078951 13-14
- DECREMENTS**  
ETHYL-ALCOHOL, BLOOD LEVELS AND PERFORMANCE DECREMENTS AFTER ORAL ADMINISTRATION TO MAN. 104378 13-14
- DEEP**  
EFFECTS OF DRUGS ON DEEP BRAIN CENTERS. 077922 13-03
- DEFLECTION**  
PHENOTHIAZINE EFFECTS ON AUDITORY SIGNAL DEFLECTION IN PARANOID AND NONPARANOID SCHIZOPHRENICS. 106918 13-08
- DEFENSE**  
ETHANOL AND THE NEURAL SUBSTRATE FOR AFFECTIVE DEFENSE IN THE CAT. 101748 13-04  
DIFFERENTIAL ACTION OF DIAZEPAM ON FLIGHT AND DEFENSE BEHAVIOR IN THE CAT. 104808 13-04
- DEFICIT**  
DEFICIT IN ACTIVE AVOIDANCE LEARNING IN RATS FOLLOWING PENICILLIN INJECTION INTO HIPPOCAMPUS. 095382 13-04
- DEFICITS**  
TIME DEPENDENT MEMORY DEFICITS PRODUCED BY PENTYLENETETRAZOL (METRAZOL) - THE EFFECT OF REINFORCEMENT MAGNITUDE. 102305 13-04
- DEFINED**  
INVESTIGATIONS ON THE ELECTROLYTE CONTENTS OF ANATOMICALLY DEFINED PARTS OF THE BRAIN IN NORMAL AND LITHIUM - TREATED RATS. 123279 13-03
- DEGENERATION**  
CASE REPORT OF AN UNUSUAL COURSE OF HEPATOLENTICULAR DEGENERATION. 087019 13-15  
OUR EXPERIENCE WITH TREATMENT OF HEPATOLENTICULAR DEGENERATION WITH PENICILLAMINE. 101418 13-11
- DEHYDROGENASE**  
INHIBITION OF ALDEHYDE DEHYDROGENASE BY 2-CHLOROACETOPHENONE AND THE RESULTANT EFFECTS OF THE CATABOLISM OF NOREPINEPHRINE ON BRAIN. 077726 13-03  
DIFFERENT EFFECT OF CHLORPROMAZINE ON THE ACTIVITY OF CRYSTALLINE LACTIC DEHYDROGENASE ISOENZYMES. 108717 13-03
- DEHYDROGENASES**  
COMPARISON OF PYRAZOLE AND 4-BROMOPYRAZOLE AS INHIBITORS OF ALCOHOL DEHYDROGENASES: THEIR POTENCY, TOXICITY AND DURATION OF ACTION IN MICE. 094253 13-05  
ON THE SELECTIVE EFFECT OF THE NEW ANTIDEPRESSANT FLUORACIZINE ON THE ACTIVITY OF PYRIDINE DEHYDROGENASES IN THE BRAIN OF RATS. 111703 13-03
- DELAY**  
CHANGES IN NOREPINEPHRINE TURNOVER IN RAT BRAIN DURING CHRONIC ADMINISTRATION OF IMIPRAMINE AND PROTRIPTYLINE: A POSSIBLE EXPLANATION FOR THE DELAY IN ONSET OF CLINICAL ANTIDEPRESSANT EFFECTS. 086251 13-03  
THE DELAY OF THE BEHAVIORAL EFFECTS OF DELTA9-TETRAHYDROCANNABINOL IN RATS BY 2-DIETHYLAMINOETHYL 2,2-DIPHENYLVALERATE HCL (SKF-525A). 109030 13-03
- DELAYED**  
EFFECTS OF SINGLE 1/2 LD50 DOSES OF GB UPON DELAYED RESPONSE AND CONDITIONED AVOIDANCE RESPONSE TESTS. 094956 13-03  
DELAYED OXYPHENYLBUTAZONE ABSORPTION BY SOME TRICYCLIC COMPOUNDS IN THE RAT. 103650 13-03
- DELINQUENTS**  
CLINICAL AND EXPERIMENTAL PSYCHOLOGICAL INVESTIGATIONS OF THE EFFECT OF ANTIANDROGEN CYPROTERONE ACETATE IN SLIGHTLY IRRESPONSIBLE AND GROSSLY IRRESPONSIBLE SEXUAL DELINQUENTS. 088693 13-11
- DELIRE-A-DEUX**  
DELIRE-A-DEUX IN THE COURSE OF METHYLPHENIDATE ADDICTION. 096114 13-15
- DELIRIUM**  
THE REVERSAL OF ANTICHOLINERGIC DRUG-INDUCED DELIRIUM AND COMA WITH PHYSOSTIGMINE. 079833 13-14  
ANTICONVULSIVE SEDATIVE TREATMENT OF DELIRIUM ALCOHOLICUM. 101754 13-11  
CASE OF DELIRIUM FOLLOWING RESUSCITATION, WITH MILD PSYCHOORGANIC SEQUELAE. 118222 13-09  
WITHDRAWAL DELIRIUM IN CHLORMETHIAZOLE ADDICTION. 126041 13-15

**DELIRIUM-TREMENS**

- THE EFFECT OF SYMPATHETIC BETA-RECEPTOR BLOCKING AGENTS ON THE COURSE OF DELIRIUM-TREMENS. 086073 13-13
- CHANGES IN CALCIUM AND MAGNESIUM METABOLISM IN DEPRESSIONS AND DELIRIUM-TREMENS. 089200 13-13

**DELTA**

- INFLUENCE OF (-)DELTA(G) TRANS-TETRAHYDROCANNABINOL AND MESCALINE ON THE BEHAVIOR OF RATS SUBMITTED TO FOOD COMPETITION SITUATIONS. 104578 13-04

**DELTA1-TETRAHYDROCANNABINOL**

- EFFECT OF DELTA1-TETRAHYDROCANNABINOL ON ATPASE ACTIVITY OF RAT LIVER MITOCHONDRIA. 077870 13-03
- THE EFFECT OF DELTA1-TETRAHYDROCANNABINOL ON SEROTONIN METABOLISM IN THE RAT BRAIN. 077902 13-03
- CORTICOSTERONE ELEVATION MEDIATED CENTRALLY BY DELTA1-TETRAHYDROCANNABINOL IN RATS. 079430 13-03
- SOME ACTIONS OF DELTA1-TETRAHYDROCANNABINOL AND CANNABIDIOL AT CHOLINERGIC JUNCTIONS. 087358 13-03
- ELECTROENCEPHALOGRAPHIC AND BEHAVIORAL ALTERATIONS PRODUCED BY DELTA1-TETRAHYDROCANNABINOL. 088973 13-04

**DELTA8-TETRAHYDROCANNABINOL**

- SOME ANTICHOLINERGIC LIKE BEHAVIOURAL EFFECTS OF TRANS(-) DELTA8-TETRAHYDROCANNABINOL. 102243 13-04

**DELTA8-THC**

- THE EFFECTS OF TWO TETRAHYDROCANNABINOLS, (DELTA9-THC AND DELTA8-THC) ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS. 106393 13-04

**DELTA9-TETRAHYDROCANNABINOL**

- ACTIVITY OF DELTA8- AND DELTA9-TETRAHYDROCANNABINOL AND RELATED COMPOUNDS IN THE MOUSE. 082707 13-03
- THE METABOLISM AND EXCRETION OF DELTA9-TETRAHYDROCANNABINOL IN THE RAT. 082733 13-03
- THE IDENTIFICATION, ISOLATION, AND PRESERVATION OF DELTA9-TETRAHYDROCANNABINOL (DELTA9-THC). 088583 13-01
- ACUTE TOXICITY OF DELTA9-TETRAHYDROCANNABINOL IN RATS AND MICE. 088625 13-05
- INJECTIBLE DISPERSION OF DELTA9-TETRAHYDROCANNABINOL IN SALINE USING POLYVINYLPIRROLIDONE. 088638 13-06
- INHIBITION OF NORMAL GROWTH BY CHRONIC ADMINISTRATION OF DELTA9-TETRAHYDROCANNABINOL. 101935 13-05
- THE EFFECTS OF DELTA9-TETRAHYDROCANNABINOL ON THE METABOLISM OF NOREPINEPHRINE IN RAT BRAIN. 104139 13-03
- METABOLISM OF DELTA9-TETRAHYDROCANNABINOL BY LUNG AND LIVER HOMOGENATES OF RATS TREATED WITH METHYLCHOLANTHRENE. 104765 13-03
- INTERACTIONS OF DELTA9-TETRAHYDROCANNABINOL WITH THE HEPATIC MICROSOMAL DRUG METABOLIZING SYSTEM. 107865 13-03
- THE DELAY OF THE BEHAVIORAL EFFECTS OF DELTA9-TETRAHYDROCANNABINOL IN RATS BY 2-DIETHYLAMINOETHYL 2,2-DIPHENYLVALERATE HCL (SKF-525A). 109030 13-03
- EFFECTS OF DELTA9-TETRAHYDROCANNABINOL ON SPACED RESPONDING IN GREAT APES. 120966 13-04

**DELTA9-THC**

- THE IDENTIFICATION, ISOLATION, AND PRESERVATION OF DELTA9-TETRAHYDROCANNABINOL (DELTA9-THC). 088583 13-01
- THE EFFECTS OF TWO TETRAHYDROCANNABINOLS, (DELTA9-THC AND DELTA8-THC) ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS. 106393 13-04

**DELTA9-TRANS-TETRAHYDROCANNABINOL**

- EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CANNABIS-SATIVA AND (-)DELTA9-TRANS-TETRAHYDROCANNABINOL ON THE BEHAVIOR OF RATS IN AN OPEN-FIELD ARENA. 125251 13-04

**DELUSION**

- DELUSION OF PREGNANCY IN A GIRL WITH DRUG-INDUCED LACTATION. 085705 13-15

**DEMAND**

- A TECHNIQUE IN THE EVALUATION OF PSYCHOTROPIC MEDICATION BASED ON A PATIENT DEMAND SCHEDULE: COMPARISON OF THE EFFICACY OF OXYPERTINE, DIAZEPAM AND PLACEBO IN ANXIETY. 100538 13-10

**DEMEULLATION**

- INCREASED RATE OF NORADRENALINE CIRCULATION IN THE HYPOTHALAMUS AFTER DEMEULLATION OF THE ADRENAL GLANDS. 111704 13-03

**DEMOROL**

- TREATMENT OF DEPRESSION WITH DEXEDRINE AND DEMOROL. 074868 13-07

**DEMETHOXYPHENYLETHYLAMINE**

- CROSS-TOLERANCE BETWEEN P-METHOXYPHENYLETHYLAMINE (PMEA), 3,4 DEMETHOXYPHENYLETHYLAMINE (DMPEA) AND P-BROMOMETHOAMPHETAMINE (PBMA, VT11). 123270 13-04

**DEMONSTRATED**

- TRANQUILIZING EFFECTS OF PROPRANOLOL DEMONSTRATED IN RATS. 100215 13-04

**DEMONSTRATING**

- COMPARATIVE STUDIES OF VARIOUS AMPHETAMINE ANALOGUES DEMONSTRATING DIFFERENT INTERACTIONS WITH THE METABOLISM OF THE CATECHOLAMINES IN THE BRAIN. 079069 13-04
- STUDIES ON MORPHINE DEMONSTRATING THE PHENOMENA OF PHARMACOLOGIC TOLERANCE, BEHAVIORAL TOLERANCE AND BEHAVIORAL HABITUATION. (PH.D. DISSERTATION). 125242 13-04

**DEMONSTRATION**

- DEMONSTRATION OF 3,4 DIHYDROXYBENZOIC(14C) ACID AND (14C)VANILLIC ACID AFTER ADMINISTRATION OF (14C)NORADRENALINE IN THE RAT. 088637 13-03
- MONOIODINSULIN: DEMONSTRATION OF ITS BIOLOGICAL ACTIVITY (UNPUBLISHED PAPER). 092898 13-06
- A NEW GAS CHROMATOGRAPHIC METHOD FOR THE DEMONSTRATION OF CANNABIS INTAKE BY ANALYSIS OF BIOLOGICAL FLUIDS. 123265 13-06

**DEMOPXAM**

- BIOLOGICAL HALF-LIFE OF CHLORDIAZEPOXIDE AND ITS METABOLITE, DEMOPXAM, IN MAN. 120828 13-13

**DENTAL**

- DRUGS, DRY MOUTH, AND DENTAL DISEASE. 103633 13-15

**DEODORIZED**

- REACTIONS OF MALE FIGHTERS TO MALE AND FEMALE MICE, UNTREATED OR DEODORIZED. 101738 13-04

**DEOXYRIBONUCLEIC**

- SEX DIFFERENCES IN BRAIN DEOXYRIBONUCLEIC ACID AND CHOLINESTERASE ACTIVITY IN RATS. 089332 13-04
- STUDIES ON DEOXYRIBONUCLEIC ACID METABOLISM IN HUMAN CELLS TREATED WITH LYSERGIC ACID DIETHYLAMIDE. 120470 13-13

**DEPARTMENT**

- MCGILL RECOGNIZES SPECIALITY OF PSYCHOPHARMACOLOGY BY ESTABLISHING NEW DEPARTMENT. 078127 13-17
- BEHAVIOR AND HOW IT IS AFFECTED BY DRUGS IS BEING INVESTIGATED BY THE NORTH-CAROLINA DEPARTMENT OF MENTAL HEALTH BY USING SPIDERS AS LABORATORY ANIMALS. 086126 13-04
- TREATMENT WITH DIPERON IN AN OUTPATIENT DEPARTMENT FOR CHILDREN AND ADOLESCENTS. 100562 13-11

**DEPENDENCE**

- PHENOBARBITAL TECHNIQUE FOR TREATMENT OF BARBITURATE DEPENDENCE. 071568 13-16
- NARCOTIC TOLERANCE AND DEPENDENCE: LACK OF RELATIONSHIP WITH SEROTONIN TURNOVER IN THE BRAIN. 082727 13-03
- THE EFFECT OF P-CHLOROPHENYLALANINE ON OPIATE INDUCED RUNNING, ANALGESIA, TOLERANCE AND PHYSICAL DEPENDENCE IN MICE. 082781 13-04
- ALCOHOL DEPENDENCE PRODUCED IN MICE BY INHALATION OF ETHANOL: GRADING THE WITHDRAWAL REACTION. 082827 13-03
- ALCOHOL DEPENDENCE AND OPIATE DEPENDENCE: LACK OF RELATION IN MICE. 082828 13-03
- SOME RELATIONS BETWEEN TOLERANCE AND PHYSICAL DEPENDENCE TO MORPHINE IN MICE. 086809 13-04

# Subject Index

# Psychopharmacology Abstracts

VOLU

- A COMPARISON OF TECHNIQUES TO INDUCE ALCOHOL DEPENDENCE AND TOLERANCE IN THE MOUSE (UNPUBLISHED PAPER). 087462 13-06
- PHYSICAL DEPENDENCE ON MORPHINE FAILS TO INCREASE SEROTONIN TURNOVER RATE IN RAT BRAIN. 088994 13-03
- CIGARETTE DEPENDENCE: I - NATURE AND CLASSIFICATION. 091779 13-14
- DRUGS OF DEPENDENCE THOUGHT NOT OF ABUSE: FENFLURAMINE AND IMIPRAMINE. 092160 13-12
- ELECTROENCEPHALOGRAPHIC STUDIES ON CODEINE DEPENDENCE IN RAT WITH SPECIAL REFERENCE TO THE SPIKE FORMATION IN THE HIPPOCAMPUS DURING ABSTINENCE SYNDROME. 098304 13-03
- TOLERANCE TO OPIOID NARCOTICS: TIME COURSE AND REVERSIBILITY OF PHYSICAL DEPENDENCE IN MICE. 098926 13-03
- MORPHINE TOLERANCE AND DEPENDENCE INDUCED BY INTRAVENTRICULAR INJECTION. 099826 13-04
- THE DEVELOPMENT OF TOLERANCE TO AND OF PHYSICAL DEPENDENCE ON MORPHINE FOLLOWING INTRAVENTRICULAR INJECTION IN THE RAT. 102883 13-04
- A SIMPLE QUANTITATIVE METHOD FOR THE EVALUATION OF PHYSICAL DEPENDENCE LIABILITY OF MORPHINE IN MICE. 102885 13-04
- STUDIES OF THE DEPENDENCE PRODUCING PROPERTIES OF GPA-1657, PROFADOL, AND PROPIRAM IN MAN. 104363 13-14
- DEVELOPMENT OF MORPHINE DEPENDENCE IN RATS: LACK OF EFFECT OF PREVIOUS INGESTION OF OTHER DRUGS. 104436 13-04
- DEPENDENT**
- EFFECTS OF IMIPRAMINE ON THE NA-ION DEPENDENT EXCHANGE AND RETENTION OF GAMMA-AMINOBUTYRIC ACID BY MOUSE BRAIN SUBCELLULAR PARTICLES. 077725 13-03
- A VITAMIN-B3 DEPENDENT FAMILY. 082736 13-17
- VITAMIN-B3 DEPENDENT CHILD. 098976 13-08
- TIME DEPENDENT MEMORY DEFICITS PRODUCED BY PENTYLENETETRAZOL (METRAZOL) - THE EFFECT OF REINFORCEMENT MAGNITUDE. 102305 13-04
- EVIDENCE FOR STATE DEPENDENT LEARNING WITH Mescaline IN A PASSIVE AVOIDANCE TASK. 105079 13-04
- A COMPARISON OF STATE DEPENDENT LEARNING INDUCED BY ELECTROCONVULSIVE SHOCK AND PENTOBARBITAL. 105362 13-04
- PHARMACOLOGICAL BLOCKADE OF AMPHETAMINE EFFECTS IN SUBJECTS DEPENDENT ON CENTRAL STIMULANTS. 123292 13-13
- COMPARISON OF DOSE DEPENDENT DEPLETION OF SOME MONOAMINES IN RAT BRAINS BY MEANS OF RESERPINE AND OXYPERTINE. 126103 13-03
- DEPLETED**
- SOCIAL BEHAVIOR OF MONKEYS SELECTIVELY DEPLETED OF MONOAMINES. 101934 13-04
- DEPLETING**
- EFFECT OF DIETHYLAMINOETHYL DIPHENYLPROPYLACETATE HYDROCHLORIDE (SKF-525A) ON THE NOREPINEPHRINE DEPLETING ACTIONS OF D-AMPHETAMINE. 108286 13-03
- DEPLETION**
- SPECIFICITY OF ACTION OF 6-HYDROXYDOPAMINE IN PERIPHERAL CAT TISSUES: DEPLETION OF NORADRENALINE WITHOUT DEPLETION OF 5-HYDROXYTRYPTAMINE. 088486 13-03
- DEPLETION OF BRAIN NORADRENALINE AND DOPAMINE BY 6-HYDROXYDOPAMINE. 088706 13-03
- CATECHOLAMINE DEPLETION AND ADRENERGIC NEURONE BLOCKADE: STUDIES WITH DEBRISOQUINE. 104011 13-03
- THE EFFECT OF AMITRIPTYLINE ON THE BEHAVIOUR AND EEG OF RATS AFTER DEPLETION OF SEROTONIN BY PARA-CHLOROPHENYLAMINE. 106093 13-03
- PRELIMINARY EVIDENCE THAT SYROSINGOPINE PRODUCES A SELECTIVE DEPLETION OF CENTRAL STORES OF SYMPATHOMIMETIC AMINES. 106422 13-03
- RELATIONSHIP BETWEEN DEPLETION OF NOREPINEPHRINE IN THE BRAIN AND THE HYPOTHERMIC EFFECT OF APOMORPHINE IN MICE. 113523 13-03
- COMPARISON OF DOSE DEPENDENT DEPLETION OF SOME MONOAMINES IN RAT BRAINS BY MEANS OF RESERPINE AND OXYPERTINE. 126103 13-03
- DEPLETOR**
- INDUCTION OF BIZARRE BEHAVIOUR IN RATS BY P-CHLOROAMPHETAMINE, A SEROTONIN DEPLETOR, AFTER REPEATED DRUG ADMINISTRATION. 104793 13-04
- 1,3-BIS 4-(P-METHOXYPHENYL)PIPERAZINYL-2-PROPANE (RO-8-2580): A NEW MONOAMINE DEPLETOR. 105408 13-02
- DEPOT**
- COMBINED INTRAMUSCULAR ADMINISTRATION OF DEPOT FLUPHENAZINE AND BENZTROPINE MESYLATE IN CHRONIC SCHIZOPHRENIC PATIENTS. 096602 13-08
- DEPRESSANT**
- EFFECT OF TRYPTOPHAN ON TOXICITY AND DEPRESSANT EFFECTS OF BARBITURATES AND ETHANOL IN RATS. 078164 13-03
- LOCUS OF CENTRAL DEPRESSANT ACTION OF SOME BENZODIAZEPINE ANALOGUES. 089285 13-03
- NEUROPHARMACOLOGICAL PROPERTIES OF SU17595A, A CHLORPROMAZINE-LIKE CENTRAL NERVOUS SYSTEM DEPRESSANT. 098158 13-03
- STRUCTURE ACTIVITY RELATIONSHIP OF 5-TRIAZOLO 1,4 BENZODIAZEPINES IN CENTRAL NERVOUS DEPRESSANT ACTION. 105390 13-02
- PARTIAL ANTAGONISM BY EXOGENOUS CALCIUM OF THE DEPRESSANT EFFECT OF RESERPINE IN RAT SHUTTLE-BOX BEHAVIOR. 117580 13-03
- DEPRESSANTS**
- PHARMACOLOGICAL STUDIES ON NEW POTENT CENTRAL DEPRESSANTS, 8-CHLORO-6-PHENYL-4H-5-TRIAZOLOBENZODIAZEPINE (D-40TA) AND ITS 1 METHYL ANALOGUE (D-65MT). 105392 13-02
- DERESSED**
- KETIPRAMINE FUMARATE AS COMPARED TO IMIPRAMINE IN DEPRESSED OUTPATIENTS. 077823 13-09
- ANXIOUS DEPRESSED ADULTS AND PROBLEM CHILDREN TREATED WITH THIORIDAZINE IN PRIVATE PRACTICE. 078943 13-10
- COMPARISON OF MOLIDONE AND PLACEBO IN ANXIOUS DEPRESSED PATIENTS. 086897 13-10
- CHANGES IN REM SLEEP OF CHRONIC ANXIOUS DEPRESSED PATIENTS GIVEN ALPHA-METHYL-P-TYROSINE (UNPUBLISHED PAPER). 093260 13-10
- DIFFERENTIAL RESPONSE TO LITHIUM IN BIPOLAR VS UNIPOLAR DEPRESSED PATIENTS (UNPUBLISHED PAPER). 093454 13-09
- DEPRESSION AND CEREBRAL DOMINANCE: A STUDY OF BILATERAL INTRACAROTID AMYTAL IN ELEVEN DEPRESSED PATIENTS. 093815 13-09
- EFFECT OF L-DOPA TREATMENT ON BRAIN SEROTONIN METABOLISM IN DEPRESSED PATIENTS. 098686 13-13
- CLINICAL INVESTIGATION OF DOXEPIN IN DEPRESSED PATIENTS: PILOT OPEN STUDY, CONTROLLED DOUBLE-BLIND TRIAL VERSUS IMIPRAMINE, AND ALL-NIGHT POLYGRAPHIC STUDY. 099031 13-10
- COMBINATION OF MEPROBAMATE AND BENACTYZINE (DEPQOL) AND CONSTITUENTS IN NEUROTIC DEPRESSED OUTPATIENTS. 100208 13-10
- THE COMBINATION OF PROTRIPTYLINE AND OXAZEPAM IN DEPRESSED NEUROTIC GENERAL PRACTICE PATIENTS. 103626 13-10
- EFFECTS OF CHLORDIAZEPOXIDE ON DEPRESSED PERFORMANCE AFTER REWARD REDUCTION. 125164 13-04
- DEPRESSION**
- RELATIONSHIP BETWEEN DEPRESSION AND MANIA. 073248 13-14
- DRUGS AND TREATMENT OF DEPRESSION AND MANIA. 074202 13-10
- TREATMENT OF DEPRESSION WITH DEXEDRINE AND DEMEROL. 074868 13-07
- PHARMACOLOGIC CONSIDERATIONS IN THE TREATMENT OF ANXIETY AND DEPRESSION IN MEDICAL PRACTICE. 074974 13-10
- TREATING ANXIETY AND DEPRESSION IN THE ELDERLY: A DOUBLE-BLIND CROSSOVER EVALUATION OF TWO WIDELY USED TRANQUILIZERS. 079011 13-11

## DEPRESSION OF BEHAVIOR AND THE BRAIN CONTENT OF ALPHA-METHYLNOREPINEPHRINE AND ALPHA-METHYLDOPAMINE FOLLOWING THE ADMINISTRATION OF ALPHA-METHYLDOPA.

- DEPRESSION EASED BY MAO INHIBITION. 082757 13-04
- STUDIES OF ALPHA-METHYL-P-TYROSINE, L-DOPA, AND L-TRYPTOPHAN IN DEPRESSION AND MANIA. 083393 13-09
- TREATMENT OF DEPRESSION BY INFUSION TECHNIQUE. 085448 13-09
- DOUBLE-BLIND CLINICAL STUDY COMPARING DOXEPIN AND IMIPRAMINE IN DEPRESSION. 086519 13-09
- THE EFFECT OF A THYMOLEPTIC DRUG UPON INHIBITION OF DRIVE IN ENDOGENOUS DEPRESSION: A QUANTITATIVE STATISTICAL INVESTIGATION. 086522 13-09
- BIOCHEMICAL CHANGES IN DEPRESSION. 087291 13-09
- THE PSYCHOPHARMACOLOGY OF DEPRESSION: PERSPECTIVES IN RESEARCH. 087469 13-09
- DEPRESSION AND CEREBRAL DOMINANCE: A STUDY OF BILATERAL INTRACAROTID AMYTAL IN ELEVEN DEPRESSED PATIENTS. 091119 13-10
- METHODOLOGY FOR DRUG EVALUATION IN AFFECTIVE DISORDERS: DEPRESSION. AGENTS. 093815 13-09
- RESULTS OF DEPRESSION TREATMENT WITH NORTRIPTYLINE: CRITICAL CLINICAL CONTRIBUTION. 095537 13-09
- CLINICAL EXPERIENCE WITH THIORIDAZINE (MELLERIL) IN THE TREATMENT OF ANXIETY AND DEPRESSION ASSOCIATED WITH EMOTIONAL DISORDERS IN GENERAL PRACTICE. 096310 13-09
- AMANTADINE IN DEPRESSION. 097556 13-10
- ANXIETY, DEPRESSION AND PSYCHOTROPIC DRUGS. 098751 13-09
- AMPHETAMINE WITHDRAWAL: DEPRESSION AND M.H.P.G. EXCRETION. 098916 13-14
- DIBENZEPINE AND AMITRIPTYLINE IN THE TREATMENT OF DEPRESSION. 098921 13-15
- ORAL CONTRACEPTIVES, DEPRESSION, AND LIBIDO. 099124 13-10
- MONOAMINE PRECURSORS IN THE TREATMENT OF DEPRESSION. 100131 13-15
- RESPIRATORY DEPRESSION CAUSED BY NITRAZEPAM IN PATIENTS WITH RESPIRATORY FAILURE. 100439 13-07
- ANXIETY STATE OR MASKED DEPRESSION? A STUDY BASED ON THE ACTION OF MONOAMINE OXIDASE INHIBITORS. 100495 13-15
- DIFFERENTIATION OF TWO GENETICALLY SPECIFIC TYPES OF DEPRESSION BY THE RESPONSE TO ANTIDEPRESSANT DRUGS. 100791 13-10
- DEPRESSION ASSOCIATED WITH ALCOHOL WITHDRAWAL. 101434 13-10
- CONSUMMATORY BEHAVIOR DURING TOLERANCE TO AND WITHDRAWAL FROM CHRONIC DEPRESSION OF CHOLINESTERASE ACTIVITY. 101746 13-11
- AN EVALUATION OF TOFENACINE (ELAMOL), A NEW DRUG FOR THE TREATMENT OF DEPRESSION. 102094 13-04
- ACQUISITION OF NEW RESPONSES BY RATS DURING CHRONIC DEPRESSION OF ACETYLCHOLINESTERASE ACTIVITY. 102349 13-07
- COMPARISON OF MAJOR DRUG THERAPIES FOR ALLEVIATION OF ANXIETY AND DEPRESSION. 103461 13-04
- MEASUREMENT OF PHARMACOLOGICAL DEPRESSION OF EXPLORATORY ACTIVITY IN MICE: A CONTRIBUTION TO THE PROBLEM OF TIME ECONOMY AND SENSITIVITY. 103912 13-14
- RETARDED DEPRESSION AND THE DOPAMINE METABOLISM. 104704 13-06
- A DOUBLE-BLIND COMPARISON OF DOTHIEPIN AND AMITRIPTYLINE FOR THE TREATMENT OF DEPRESSION WITH ANXIETY. 104829 13-13
- REVERSAL BY SOTALOL OF THE RESPIRATORY DEPRESSION INDUCED IN MICE BY ETHANOL. 104830 13-09
- NIKETHAMIDE AND DOXAPRAM EFFECTS ON PENTAZOCINE AND MORPHINE INDUCED RESPIRATORY DEPRESSION. 105406 13-03
- 105407 13-03

## DEPRESSIONS

- LITHIUM CARBONATE AND ISOCARBOXAZID - AN EFFECTIVE DRUG APPROACH IN SEVERE DEPRESSIONS. 088144 13-07
- ACETOPHENAZINE AND DIAZEPAM IN ANXIOUS DEPRESSIONS. 088148 13-10
- A PROPOSAL FOR A CONSISTENT NIGHT THERAPY FOR THE MENTAL PATIENT; CONJOINTLY, A CAUSISTIC CONTRIBUTION TO A DAY NIGHT THERAPY FOR DEPRESSIONS WITH PSYCHOTROPIC DRUGS. 089067 13-09
- CHANGES IN CALCIUM AND MAGNESIUM METABOLISM IN DEPRESSIONS AND DELIRIUM-TREMENS. 089200 13-13
- INDOLEAMINES AND THE DEPRESSIONS. 099345 13-09
- LITHIUM PROPHYLAXIS IN MANIC-DEPRESSIVE PSYCHOSIS AND IN RECURRENT ENDOGENOUS DEPRESSIONS. 103320 13-09
- ENDOGENOUS DEPRESSIONS WITH AND WITHOUT DISTURBANCES IN THE 5-HYDROXYTRYPTAMINE METABOLISM: A BIOCHEMICAL CLASSIFICATION. 104832 13-13
- DEPRESSIVE
- TREATMENT OF ANXIOUS DEPRESSIVE PATIENTS IN GENERAL MEDICAL PRACTICE. 074318 13-07
- A COMPARATIVE TRIAL OF DOXEPIN AND AMITRIPTYLINE IN DEPRESSIVE ILLNESS. 078156 13-09
- PRODUCTION OF LOCAL ANAPHYLACTIC REACTIONS AS AN ATTEMPT TO TREAT DEPRESSIVE PSYCHOSES. 087035 13-07
- IATROGENIC PSYCHOTIC DEPRESSIVE REACTION IN HYPERTENSIVE PATIENTS. 088147 13-15
- OUR EXPERIENCE WITH THIORIDAZINE IN DEPRESSIVE STATES. 092154 13-09
- EEG, EVOKED POTENTIAL, AND CONTINGENT NEGATIVE VARIATIONS WITH LITHIUM IN MANIAC DEPRESSIVE DISEASE. 097458 13-09
- L-DOPA IN THE TREATMENT OF DEPRESSIVE SYMPTOMS. 101888 13-09
- COMPARISON OF CHLORDIAZEPoxide AMITRIPTYLINE COMBINATION WITH AMITRIPTYLINE ALONE IN ANXIETY DEPRESSIVE STATES. 102215 13-10
- A COMPARATIVE STUDY OF THE THERAPEUTIC EFFECTS OF SOME 4-CHLORINATED AMPHETAMINE DERIVATIVES IN DEPRESSIVE PATIENTS. 103955 13-13
- MODIFICATION OF DEPRESSIVE EPISODES DURING PROPHYLACTIC ADMINISTRATION OF LITHIUM SALTS. 105831 13-09
- FURTHER EXPERIENCE IN THE TREATMENT OF DEPRESSIVE STATES WITH A COMBINATION OF PSYCHOTONE AND ELECTROSHOCK THERAPY. 112443 13-09
- DIBENZAZEPINE (NOVERIL) IN THE TREATMENT OF DEPRESSIVE STATES. 118130 13-09
- CLINICAL EVALUATION OF DIBENZAZEPINE (NOVERIL) IN THE TREATMENT OF DEPRESSIVE SYNDROMES. 118209 13-09
- PRESENT THERAPY OF DEPRESSIVE STATES. 118365 13-09
- RESULTS OF ADMINISTRATION OF ANAFRANIL IN ENDOGENOUS DEPRESSIVE SYNDROMES. 125786 13-09
- ATTEMPTED THERAPY OF DEPRESSIVE PSYCHOSIS BY MEANS OF EXPERIMENTALLY INDUCED SKIN ALLERGIES. 126102 13-09
- DEPRIVATION
- BRAIN NOREPINEPHRINE AND SEROTONIN LEVELS FOLLOWING REM SLEEP DEPRIVATION IN THE RAT. 106492 13-03
- INTERACTION OF AMPHETAMINE AND FOOD DEPRIVATION ON A FOOD MOTIVATED OPERANT. 120960 13-04
- DEPROL
- COMBINATION OF MEPROBAMATE AND BENACTYZINE (DEPROL) AND CONSTITUENTS IN NEUROTIC DEPRESSED OUTPATIENTS. 100208 13-10
- DERIVATIVE
- THYMOLEPTIC EFFECTS OF A NEW DIBENZODIAZEPINE DERIVATIVE. 087034 13-09
- ACTION OF A BENZODIAZEPINE DERIVATIVE, RO-5-4200, ON THE EEG AND SLEEP CYCLE IN PATIENTS WITH INSOMNIA. 098662 13-07
- IDENTIFICATION OF BUFOFENIN IN TOAD BRAIN BY CHROMATOGRAPHY AND MASS SPECTROMETRY OF ITS DAMS DERIVATIVE. 098685 13-03

## Subject Index

## Psychopharmacology Abstracts

- SOME BIOCHEMICAL AND PHARMACOLOGICAL ACTIONS OF (-)-ERYTHRO-META-(META-CHLOROBENZOXY) 2 (1-AMINOETHYL) BENZYL ALCOHOL: A DERIVATIVE OF METARAMINOL.** 101702 13-03
- DIFFERENTIAL ANTAGONISM BETWEEN DMAE (A HEMICHOLINIUM DERIVATIVE) AND ATROPINE ON CONTRACTILE RESPONSES OF THE RAT ILEUM.** 104327 13-03
- ELECTROPHYSIOLOGICAL STUDY OF THE ACTION OF A NEW BENZODIAZEPINE DERIVATIVE (ORF-8063) ON THE CENTRAL NERVOUS SYSTEM.** 117025 13-04
- DERIVATES**
- EFFECTS OF MORPHOLINO, PYRROLIDINO, PIPERIZINO, AND CYCLOOCTYL DERIVATIVES OF BETA-ALANINE ON BRAIN AMINES AND AMINO ACIDS.** 082729 13-04
- USE OF CERIC SULFATE AND CUPRIC PERCHLORATE FOR TITRIMETRIC ANALYSES OF PHENOTHIAZINE DERIVATIVES.** 082763 13-06
- CIS- AND TRANS-2-(3,4,5 TRIMETHOXYPHENYL)CYCLOHEXYLAMINES; N METHYL AND N,N DIMETHYL DERIVATIVES.** 082764 13-01
- ECG PICTURE IN THE COURSE OF TREATMENT OF SCHIZOPHRENIA WITH PHENOTHIAZINE DERIVATIVES.** 086596 13-13
- PHENOTHIAZINE DERIVATIVES AND BRAIN ZINC.** 088646 13-03
- CARDIOTOXICITY OF TRICYCLIC ANTIDEPRESSANTS: PHENOTHIAZINE AND IMIPRAMINE DERIVATIVES.** 097553 13-15
- FATTY ACIDS OF LIVER MITOCHONDRIAL AND MICROSOMAL LIPIDS IN THE RAT EXPOSED TO PHENOTHIAZINE DERIVATIVES.** 102805 13-03
- A COMPARATIVE STUDY OF THE THERAPEUTIC EFFECTS OF SOME 4-CHLORINATED AMPHETAMINE DERIVATIVES IN DEPRESSIVE PATIENTS.** 103955 13-13
- INDUCED FORMATION OF PHENYLALANINE AMMONIA LYASE AND PISATIN BY CHLORPROMAZINE AND OTHER PHENOTHIAZINE DERIVATIVES.** 108716 13-17
- EFFECTS OF PSILOCYBIN, DIMETHYLTRYPTAMINE, Mescaline AND VARIOUS LYSERGIC ACID DERIVATIVES ON THE EEG AND ON PHOTICALLY INDUCED EPILEPSY (PAPIO-PAPIO).** 109620 13-03
- ON THE RELATIONSHIP BETWEEN THE CHEMICAL STRUCTURE AND PSYCHOTROPIC ACTIVITY AMONG DERIVATIVES OF BENZODIOXANE AND TRIMETHYLBENZOIC AND TRIMETHOXYBENZOIC ACIDS.** 111291 13-03
- ANXIOLYTIC SEDATIVES. I. SYNTHESIS AND PHARMACOLOGY OF BENZODIAZEPINOXAZOLE DERIVATIVES AND ANALOGS.** 114765 13-01
- PHARMACOLOGY OF NEW MINOR TRANQUILIZERS, BENZODIAZEPINOXAZOLE DERIVATIVES.** 116385 13-02
- EFFECT OF KIDNEY INJURY ON SOME PHARMACOLOGICAL PROPERTIES OF PHENOTHIAZINE DERIVATIVES.** 119689 13-05
- EXTRAPYRAMIDAL MOTORIC SYMPTOMS AND EEG CHANGES AFTER APPLICATION OF PHENOTHIAZINE DERIVATIVES.** 123602 13-15
- RELATIVE POTENCY OF AMPHETAMINE DERIVATIVES AND N, N-DEMETHYLTRYPTAMINES.** 125250 13-04
- DERIVED**
- PHARMACOLOGICAL STUDY OF A NEWLY DERIVED NEUROLEPTIC, OXAFUMAZINE.** 094620 13-02
- DESCENDING**
- FURTHER OBSERVATION ON THE ENHANCEMENT BY MORPHINE OF THE CENTRAL DESCENDING INHIBITORY INFLUENCE ON SPINAL SENSORY TRANSMISSION.** 125358 13-03
- DESENSITIZATION**
- DESENSITIZATION AND FLOODING (UMPLESION) IN TREATMENT OF PHOBIAS.** 093231 13-14
- TREATMENT OF PHOBIC ANXIETY AND PSYCHOGENIC IMPOTENCE BY SYSTEMATIC DESENSITIZATION EMPLOYING METHOHEXITONE INDUCED RELAXATION.** 099320 13-10
- PRELIMINARY COMMUNICATION: I. DECLINING DOSE DRUG DESENSITIZATION FOR PHOBIAS.** 100736 13-10
- DESERIL**
- BC-105 AND METHYSERGIDE (DESERIL) IN MIGRAINE PROPHYLAXIS.** 117683 13-07
- DESIGN**
- COMPARISON OF THIORIDAZINE AND CHLORPROMAZINE IN DOCTORS CHOICE RESEARCH DESIGN.** 100438 13-16
- ENHANCED DISSOLUTION RATES FOR A SERIES OF DRUGS AS A FUNCTION OF DOSAGE FORM DESIGN.** 100829 13-17
- DESIGNS**
- SINGLE SUBJECT DESIGNS FOR ASSESSMENT OF PSYCHOTROPIC DRUG EFFECTS IN CHILDREN.** 112085 13-14
- DESIPRAMINE**
- EFFECTIVENESS OF ANTIDEPRESSANT DRUGS: A TRIPLE-BLIND STUDY COMPARING IMIPRAMINE, DESIPRAMINE, AND PLACEBO.** 079289 13-10
- DESIPRAMINE (DM), EFFECT ON THE LEVELS OF ACETYLCHOLINE (ACH) IN WHOLE BRAIN AND IN STRIATUM OF RATS.** 086811 13-03
- BRAIN LEVELS OF IMIPRAMINE AND DESIPRAMINE AFTER COMBINED TREATMENT WITH THESE DRUGS IN RATS.** 086812 13-03
- SUPPRESSION OF HIPPOCAMPAL DFP DISCHARGES BY CHLORPROMAZINE, IMIPRAMINE AND DESIPRAMINE.** 088733 13-03
- EFFECTS OF IMIPRAMINE, DESIPRAMINE AND MONOAMINE OXIDASE INHIBITORS ON THE METABOLISM AND PSYCHOMOTOR STIMULANT ACTIONS OF D-AMPHETAMINE IN MICE.** 089027 13-04
- DESIRE**
- INCREASED SEXUAL DESIRE AT THE MENOPAUSE: A MYTH EXPLODED.** 093796 13-11
- DESMETHYLIMIPRAMINE**
- UPTAKE, METABOLISM AND EXCRETION OF DESMETHYLIMIPRAMINE AND ITS METABOLITES IN THE ISOLATED PERFUSED RAT LIVER.** 098616 13-03
- EFFECT OF CHLORPROMAZINE, DESMETHYLIMIPRAMINE AND LITHIUM ON DOPAMINE UPTAKE IN THE RAT PANCREAS.** 103312 13-03
- THE EFFECTS OF INTRAHYPOTHALAMIC INJECTIONS OF DESMETHYLIMIPRAMINE ON FOOD AND WATER INTAKE OF THE RAT.** 104806 13-04
- INTERACTION OF IMIPRAMINE, DESMETHYLIMIPRAMINE, NORTRIPTYLINE, AND 1-NAPHTHOL WITH MICROSOMAL PREPARATIONS.** 122576 13-03
- STUDIES ON THE METABOLISM AND PHARMACOKINETICS OF NORTRIPTYLINE AND DESMETHYLIMIPRAMINE IN MAN.** 122579 13-13
- DESTRUCTION**
- THE CENTRAL METABOLISM OF SEROTONIN IN THE CAT DURING INSOMNIA: A NEUROPHYSIOLOGICAL AND BIOCHEMICAL STUDY AFTER ADMINISTRATION OF P-CHLOROPHENYLALANINE OR DESTRUCTION OF THE RAPHE SYSTEM.** 099261 13-03
- DESTRUCTIVE**
- LOXAPINE SUCCINATE IN THE TREATMENT OF UNCONTROLLABLE DESTRUCTIVE BEHAVIOR.** 117023 13-11
- DETECTING**
- EVALUATION OF A RAPID TECHNIQUE FOR DETECTING MINOR TRANQUILIZERS.** 100214 13-06
- A METHOD FOR DETECTING INTRACELLULAR CYCLIC ADENOSINE MONOPHOSPHATE BY IMMUNOFLOURESCENCE. (UNPUBLISHED PAPER).** 107113 13-06
- DETECTION**
- OPIUM ALKALOIDS IX: DETECTION OF COREXIMINE IN PAPAVER-SOMNIFERUM L. BASED ON ITS BIOSYNTHESIS FROM RETICULINE.** 086577 13-01
- HYDROLYSIS: A REQUISITE FOR MORPHINE DETECTION IN URINE.** 086892 13-16
- DETECTION OF SOME PSYCHOTHERAPEUTIC DRUGS AND THEIR METABOLITES IN URINE.** 098636 13-13
- RAPID DETECTION OF CERTAIN BASIC DRUGS IN URINE.** 101987 13-16
- DETENTION**
- CYCLOHEXIMIDE INDUCED AMNESIA: ITS INTERACTION WITH DETENTION.** 104796 13-04
- DETERIORATION**
- CLINICAL STUDY OF PIRIBEDIL WITH SYNDROMES OF INTELLECTUAL DETERIORATION IN AMNESIA.** 093701 13-11

- DETERMINATION**  
IDENTIFICATION AND QUANTITATIVE DETERMINATION OF SOME METABOLITES OF METHADONE, ISOMETHADONE AND NORMETHADONE. 077906 13-03
- DETERMINATION OF THE COMPONENTS OF A COMBINED PREPARATION OF GLUTETHIMIDE, AMOBARBITAL AND PROMETHAZINE IN AUTOPSY MATERIAL FROM SEVERAL SUICIDES. 089151 13-15
- DETERMINATION OF THERAPEUTIC BLOOD LEVELS OF METHAMPHETAMINE AND PENTOBARBITAL BY GC. 111999 13-16
- DETERMINATION OF AMITRIPTYLINE AND METABOLITES IN VARIOUS ORGANS AFTER FATAL POISONING. 117457 13-15
- DETERMINE**  
USE OF EXPERIMENTAL METHODS TO DETERMINE SHIFTS IN THE STATE OF SCHIZOPHRENIC PATIENTS DURING TREATMENT. 118010 13-08
- DETERMINES**  
CHOLINERGIC MECHANISM DETERMINES THE OCCURRENCE OF REWARD CONTINGENT POSITIVE VARIATION (RCPV) IN CAT. 088543 13-03
- DETERRENT**  
CITRATED CALCIUM CARBIMIDE/ALCOHOL REACTION - ITS SEVERITY AND EFFECTIVENESS AS A DETERRENT. 103099 13-11
- DEVELOPING**  
EFFECT OF INHIBITION OF CATECHOLAMINE SYNTHESIS ON CENTRAL CATECHOLAMINE-CONTAINING NEURONES IN THE DEVELOPING ALBINO RAT. 089441 13-03
- NOREPINEPHRINE STIMULATED INCREASE OF CYCLIC AMP LEVELS IN DEVELOPING MOUSE BRAIN CELL CULTURES. 100103 13-03
- DEVELOPMENT**  
METABOLIC FATE OF AMPHETAMINE IN THE CAT DURING DEVELOPMENT OF TOLERANCE. 077990 13-03
- DRUG DEVELOPMENT - 1970. 082867 13-17
- THE EFFECTS OF ETHANOL ON THE DEVELOPMENT OF GASTRIC ULCERATION IN THE RAT. 085478 13-03
- COMPARISON BETWEEN ACUTE AND CHRONIC ADMINISTRATION OF ETHYL-ALCOHOL ON THE DEVELOPMENT OF TOLERANCE TO PENTOBARBITAL. 088732 13-03
- LSD: ITS EFFECTS UPON 5-HYDROXYTRYPTAMINE IN EMBRYONIC DEVELOPMENT OF XENOPUS-LAEVIS. 098919 13-12
- DEVELOPMENT OF THE UPTAKE AND STORAGE OF L-3H-NOREPINEPHRINE IN THE RAT BRAIN. 101846 13-03
- THE DEVELOPMENT OF TOLERANCE TO AND OF PHYSICAL DEPENDENCE ON MORPHINE FOLLOWING INTRAVENTRICULAR INJECTION IN THE RAT. 102883 13-04
- EFFECTS OF CHOLINOLYTIC AGENTS ON BEHAVIOR FOLLOWING DEVELOPMENT OF TOLERANCE TO LOW CHOLINESTERASE ACTIVITY. 103949 13-04
- THE EFFECT OF STRYCHNINE ADMINISTRATION DURING DEVELOPMENT ON ADULT MAZE LEARNING IN THE RAT II: DRUG ADMINISTRATION FROM DAY 51 TO 70. 104377 13-04
- DEVELOPMENT OF MORPHINE DEPENDENCE IN RATS: LACK OF EFFECT OF PREVIOUS INGESTION OF OTHER DRUGS. 104436 13-04
- DEVELOPMENT OF BEHAVIORAL TOLERANCE TO MORPHINE AND METHADONE USING THE SCHEDULE CONTROLLED BEHAVIOR OF THE PIGEON. 104809 13-04
- THE ROLE OF CENTRAL M-CHOLINERGIC SYSTEMS IN THE DEVELOPMENT OF FOOD MOTOR CONDITIONED REFLEXES. 107719 13-03
- ROLE OF CENTRAL SEROTONINERGIC PROCESSES IN DEVELOPMENT OF HEAD TWITCHES IN MICE AND RATS UNDER THE INFLUENCE OF TRYPTOPHAN. 109920 13-02
- THE DEVELOPMENT OF SYNTHETIC TECHNIQUES TO INTRODUCE A FUNCTIONALIZED CARBON SUBSTITUENT REGIOSELECTIVELY INTO THE BENZENE RING OF AN INDOLE NUCLEUS. 112783 13-01
- THE SAFETY TEST OF 10-CHLORO-11B-(2-CHLOROPHENYL) 2,3,5,6,7,11B-HEXAHYDROBENZO(6,7) 1,4 DIAZEPINOXAZOLONE (CS-370) - II. EFFECT OF CS-370 UPON THE DEVELOPMENT OF PRE-NATAL AND POST-NATAL OFFSPRINGS OF EXPERIMENTAL ANIMALS. 116154 13-03
- EFFECTS OF STRYCHNINE DURING DIFFERENT PERIODS OF DEVELOPMENT ON MAZE LEARNING IN ADULT RATS. 120961 13-03
- A MECHANISM FOR THE DEVELOPMENT OF TOLERANCE TO AMPHETAMINE IN RATS. 125166 13-03
- DEVICE**  
A DEVICE FOR THE CHRONIC INTRAVENTRICULAR INFUSION IN FREELY MOVING RATS. 088576 13-06
- DEXAMETHASONE**  
CUE VALUE OF DEXAMETHASONE FOR FEAR MOTIVATED BEHAVIOR. 079066 13-04
- PERCUTANEOUS DEXAMETHASONE AND FUNCTIONAL REHABILITATION IN NEUROLOGICAL DISORDERS. 122393 13-11
- DEXAMPHETAMINE**  
DUAL EFFECT OF DEXAMPHETAMINE ON BODY TEMPERATURE IN THE RAT. 099651 13-05
- EXTINCTION OF FEAR I: EFFECTS OF AMYLOBARBITONE AND DEXAMPHETAMINE GIVEN SEPARATELY AND IN COMBINATION ON FEAR AND EXPLORATORY BEHAVIOUR IN RATS. 104827 13-04
- ACTIONS OF DEXAMPHETAMINE AND AMPHETAMINE-LIKE AMINES IN CHICKENS WITH BRAIN TRANSECTIONS. 109194 13-03
- HYPERKINETIC DOGS CALMED BY DEXAMPHETAMINE. 111215 13-14
- DEXEDRINE**  
TREATMENT OF DEPRESSION WITH DEXEDRINE AND DEMEROL. 074868 13-07
- DEXETIMIDE**  
A QUANTITATIVE STUDY OF NEUROLEPTIC INDUCED EXTRAPYRAMIDAL SYMPTOMS AND THEIR RESPONSE TO DEXETIMIDE, A POTENT AND LONG-ACTING ANTIPARKINSONIAN AGENT. 115396 13-13
- DEXTROAMPHETAMINE**  
HUNGER AND APPETITE AFTER SINGLE-DOSES OF MARIHUANA, ALCOHOL, AND DEXTROAMPHETAMINE. 069320 13-13
- PREDICTING THE RESPONSE OF CHILDREN WITH LEARNING DISABILITIES AND BEHAVIOR PROBLEMS TO DEXTROAMPHETAMINE SULFATE. 077911 13-11
- DEXTROAMPHETAMINE RESPONSIVE BEHAVIOR DISORDER IN SCHOOL CHILDREN. 100813 13-14
- THE ROLE OF BRAIN NOREPINEPHRINE IN THE ANOREXIC EFFECTS OF DEXTROAMPHETAMINE AND MONOAMINE OXIDASE INHIBITORS IN THE RAT. 104574 13-03
- EEG PROFILES OF FENFLURAMINE, AMOBARBITAL AND DEXTROAMPHETAMINE IN NORMAL VOLUNTEERS. 107630 13-16
- DEXTROMETHORPHAN**  
PROGRESS REPORT ON THE ASSESSMENT OF THE ANTAGONISTS NALBUPHINE AND GPA-2087 FOR ABUSE POTENTIAL AND STUDIES OF THE EFFECTS OF DEXTROMETHORPHAN IN MAN (UNPUBLISHED PAPER). 094938 13-13
- DFF**  
SUPPRESSION OF HIPPOCAMPAL DFF DISCHARGES BY CHLORPROMAZINE, IMIPRAMINE AND DESIPRAMINE. 088733 13-03
- DH-524**  
CLINICAL TRIAL OF IMIDAZOLINE (DH-524) AS AN ANTIDEPRESSANT. 086896 13-07
- DIABETES**  
DIABETES IN CHRONIC SCHIZOPHRENIA. 108704 13-15
- DIABETIC**  
MARIHUANA AND DIABETIC COMA. 113636 13-15
- DIAGNOSIS**  
SPOT TESTS FOR RAPID DIAGNOSIS OF POISONING. 089180 13-15
- DIAGNOSTIC**  
SCHOOL PHOBIA: DIAGNOSTIC CONSIDERATIONS IN THE LIGHT OF IMIPRAMINE EFFECTS. 093262 13-14
- DIALOGUE**  
THE PHARMACOLOGIST - CLINICAL INVESTIGATOR DIALOGUE IN EVALUATION OF NEW PSYCHOTHERAPEUTIC DRUGS. 078956 13-07
- DIALYSABLE**  
EFFECT OF DIAZEPAM (VALIUM) ON DIALYSABLE THYROXINE. 098302 13-13

# Subject Index

# Psychopharmacology Abstracts

## DIALYSIS

DIALYSIS OF DRUGS AGAINST ACTIVATED CHARCOAL.

078162 13-16

SEVERE LITHIUM INTOXICATION: MANAGEMENT WITHOUT DIALYSIS AND REPORT OF A POSSIBLE TERATOGENIC EFFECT OF LITHIUM.

101174 13-15

## DIAMINOPURINE

EFFECT OF 5-iodouracil AND 2,6 DIAMINOPURINE ON PASSIVE AVOIDANCE TASK.

104810 13-04

## DIAZEPAM

TREATMENT OF HOSPITALIZED ALCOHOLICS WITH DOXEPIN AND DIAZEPAM: A CONTROLLED STUDY.

073606 13-11

THE EFFECT OF SOLVENTS ON THE POTENCY OF CHLORDIAZEPOXIDE, DIAZEPAM, MEDAZEPAM AND NITRAZEPAM.

077908 13-02

FACILITATION AND IMPAIRMENT OF AVOIDANCE RESPONDING BY PHENOBARBITAL SODIUM, CHLORDIAZEPOXIDE AND DIAZEPAM - THE ROLE OF PERFORMANCE BASE LINES.

082881 13-04

ACETOPHENAZINE AND DIAZEPAM IN ANXIOUS DEPRESSIONS.

088148 13-10

DIAZEPAM MODIFIED ELECTROCONVULSIVE THERAPY.

090499 13-07

BLOOD LEVELS OF DIAZEPAM (VALIUM) AND N-DESMETHYLDIAZEPAM IN THE EPILEPTIC CHILD. A PRELIMINARY REPORT.

093821 13-13

EFFECT OF DIAZEPAM (VALIUM) ON DIALYSABLE THYROXINE.

098302 13-13

DIAZEPAM TREATMENT IN A CASE OF STRYCHNINE POISONING.

099085 13-13

STRYCHNINE POISONING TREATED SUCCESSFULLY WITH DIAZEPAM.

100133 13-13

A TECHNIQUE IN THE EVALUATION OF PSYCHOTROPIC MEDICATION BASED ON A PATIENT DEMAND SCHEDULE: COMPARISON OF THE EFFICACY OF OXYPERTINE, DIAZEPAM AND PLACEBO IN ANXIETY.

100538 13-10

COMPARATIVE EVALUATION OF DIAZEPAM (VALIUM) AND PHENOBARBITAL, FOR THE RELIEF OF ANXIETY RELATED SYMPTOMS IN PATIENTS HOSPITALIZED FOR ACUTE MYOCARDIAL INFARCTION.

100626 13-14

A COMPARISON BETWEEN DIAZEPAM, DIXYRAZINE, OPRIPRAMOL AND PLACEBO IN ANXIETY STATES.

101410 13-10

DIAZEPAM IN THE MANAGEMENT OF THE NEONATAL NARCOTIC WITHDRAWAL SYNDROME.

101432 13-11

DIAZEPAM AND NEUROMUSCULAR BLOCKING DRUGS.

101525 13-03

INTRAVENOUS DIAZEPAM IN THE TREATMENT OF PROLONGED SEIZURE ACTIVITY IN NEONATES AND INFANTS.

101560 13-11

DIAZEPAM: A CLINICAL TRIAL OF THERAPEUTIC EQUIVALENCE.

101564 13-10

EFFECTS OF DIAZEPAM AND MECLIZINE HYDROCHLORIDE ON EMOTIONAL UPSET DUE TO PERCEPTUAL DISSONANCE AND MOTION.

101578 13-04

METABOLISM AND ANTICONVULSANT ACTIVITY OF DIAZEPAM IN GUINEA-PIGS.

101701 13-03

INTRAVENOUS DIAZEPAM FOR DIRECT CURRENT CARDIOVERSION.

101990 13-16

THE EFFECTS OF DIAZEPAM OR DIPHENHYDRAMINE ON HEALTHY HUMAN SUBJECTS.

102194 13-14

THE USE OF INTRAVENOUS DIAZEPAM IN STUPOR.

102798 13-09

METABOLISM OF DIAZEPAM AND ITS METABOLITES BY GUINEA-PIG LIVER MICROSOMES.

102806 13-03

WHOLE-BODY AND REGIONAL BRAIN DISTRIBUTION OF DIAZEPAM IN NEWBORN RHEUS MONKEYS.

103651 13-03

EFFECTS OF DIAZEPAM ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS.

104138 13-04

DIFFERENTIAL ACTION OF DIAZEPAM ON FLIGHT AND DEFENSE BEHAVIOR IN THE CAT.

104808 13-04

AN EXPERIMENTAL AND CLINICAL CONTRIBUTION TO INTERACTION OF ALCOHOL AND DIAZEPAM.

105906 13-03

ACUTE EFFECT OF MEDAZEPAM (15MG), OXAZEPAM (20MG), AND DIAZEPAM (10MG) ON VERBAL ASSOCIATIONS.

105916 13-14

ALCOHOL AND THE BENZODIAZEPINES: THE INTERACTION BETWEEN INTRAVENOUS ETHANOL AND CHLORDIAZEPOXIDE AND DIAZEPAM.

106136 13-13

ACTION OF DIAZEPAM ON THE SPINAL CORD.

106148 13-03

PHARMACOKINETICS OF DIAZEPAM IN DOGS, MICE AND HUMANS.

106616 13-13

DIAZEPAM AND PRESYNAPTIC INHIBITION.

107121 13-03

ANTICONVULSANT ACTIVITY AND BRAIN LEVELS OF DIAZEPAM AND ITS METABOLITES IN MICE.

107158 13-03

A COMPARATIVE TRIAL OF LORAZEPAM AND DIAZEPAM.

107594 13-10

SIMILARITY OF DIAZEPAM TO DIPHENYLHYDANTOIN.

107716 13-13

DIAZEPAM, ALCOHOL, AND BARBITURATE ABUSE.

107948 13-15

SELECTIVE EFFECT OF DIAZEPAM ON CERTAIN CENTRAL SYMPATHETIC COMPONENTS.

107963 13-03

EFFECTS OF CHLORDIAZEPOXIDE AND DIAZEPAM ON RESPIRATION AND OXIDATIVE PHOSPHORYLATION IN RAT BRAIN MITOCHONDRIA.

108284 13-03

EXPERIMENTAL CHARACTERISTICS OF SOME MANIFESTATIONS COMMON TO THE WITHDRAWAL SYNDROME FOLLOWING DISCONTINUANCE OF LONG-TERM ADMINISTRATION OF DIAZEPAM AND CHLORDIAZEPOXIDE.

111134 13-04

CLINICAL AND ELECTROENCEPHALOGRAPHIC ASSESSMENT OF DIAZEPAM IN LIVER DISEASE.

111963 13-15

INTRAVENOUS DIAZEPAM.

113999 13-15

LONG-TERM SEIZURE AFTER STATUS-EPILEPTICUS WITH DIAZEPAM.

115899 13-13

A STUDY OF THE INDUCTION EFFECT OF PHENOBARBITAL, DIAZEPAM, OXAZEPAM IN THE DOG.

123293 13-03

EASY METHOD OF HYPNOTIC TREATMENT WITH INTRAVENOUS DIAZEPAM.

126039 13-14

## DIAZEPAM-C14

AUTORADIOGRAPHIC STUDY OF THE FATE OF DIAZEPAM-C14 IN THE MONKEY BRAIN.

106147 13-03

## DIAZEPINOXAZOLONE

THE SAFETY TEST OF 10-CHLORO-11B-(2-CHLOROPHENYL) 2,3,5,6,7,11B-HEXAHYDROBENZOX(6,7) 1,4 DIAZEPINOXAZOLONE (CS-370) - II. EFFECT OF CS-370 UPON THE DEVELOPMENT OF PRE-NATAL AND POST-NATAL OFFSPRINGS OF EXPERIMENTAL ANIMALS.

116154 13-03

## DIAZOXIDE

PLACENTAL TRANSFER OF DIAZOXIDE AND ITS HAZARDOUS EFFECT ON THE NEWBORN.

086938 13-03

## DIBENZAZEPINE

DIBENZAZEPINE (NOVERIL) IN THE TREATMENT OF DEPRESSIVE STATES.

118130 13-09

CLINICAL EVALUATION OF DIBENZAZEPINE (NOVERIL) IN THE TREATMENT OF DEPRESSIVE SYNDROMES.

118209 13-09

## DIBENZEPINE

DIBENZEPINE AND AMITRIPTYLINE IN THE TREATMENT OF DEPRESSION.

099124 13-10

EEG FREQUENCY ANALYSIS IN THE TREATMENT WITH SOME ANTIDEPRESSANT DRUGS: (IMIPRAMINE, AMITRIPTYLINE, DIBENZEPINE, DIMETHACRINE).

112289 13-09

## DIBENZODIAZEPINE

THYMOLIPTIC EFFECTS OF A NEW DIBENZODIAZEPINE DERIVATIVE.

087034 13-09

RESULTS OF A DOUBLE-BLIND EXPERIMENT WITH HF-1954 (8-CHLORO-11-(4-METHYL-1-PIPERAZINYL) 5H DIBENZODIAZEPINE) COMPARED WITH LEVOMEPROMAZINE.

099032 13-08

## DIBENZODIAZEPINEONE

PHARMACOLOGICAL STUDIES OF 5-METHYL-8-ETHYL-SULFONYL-10-(2-DIMETHYLAMINOETHYL) 5H DIBENZODIAZEPINEONE (SM-307), AN ANTIDEPRESSIVE SUBSTANCE.

098303 13-03

## DIBENZOTHIPIPIN

GP-45795: A NEW DIBENZOTHIPIPIN ANTIPSYCHOTIC AGENT.

099157 13-07

## DIBROMPHTHALEIN

IMPAIRED BILIARY EXCRETION OF PHENOL 3,6 DIBROMPHTHALEIN DISULFONATE IN NEONATAL GUINEA-PIGS.

089284 13-03

- DICAFFEYLOQUINIC**  
THE INFLUENCE OF 1,5 DICAFFEYLOQUINIC ACID ON SERUM LIPIDS IN THE EXPERIMENTALLY ALCOHOLISED RAT. 100334 13-03
- DICHLORALPHENAZONE**  
DICHLORALPHENAZONE AND BREAST MILK. 107872 13-17
- DIENCEPHALIC**  
EFFECTS OF APOMORPHINE AND AMPHETAMINE IN RATS WITH A PERMANENT CATALEPSY INDUCED BY DIENCEPHALIC LESION. PHARMACOLOGY. 105118 13-03
- DIENCEPHALOALLERGIC**  
ON THERAPY FOR DIENCEPHALOALLERGIC SYNDROMES. 102711 13-17
- DIET**  
A NOTE ON THE INFLUENCE OF DIET IN WEST AFRICA ON URINARY PH AND EXCRETION OF AMPHETAMINE IN MAN. 077904 13-13
- DIETARY**  
DAILY RHYTHMIC CHANGES IN HEPATIC PHENYLALANINE HYDROXYLASE ACTIVITY: ROLE OF DIETARY PHENYLALANINE. 088557 13-03
- DIETHYL**  
PROACTIVE AND RETROACTIVE EFFECTS OF DIETHYL ETHER ON SPATIAL DISCRIMINATION LEARNING IN INBRED MOUSE STRAINS DBA/2J AND C57BL/6J. 079532 13-14
- DIETHYLAMIDE**  
THE INFLUENCE OF SELECTIVE TEMPORAL LOBE DAMAGE ON BEHAVIOR AND THE RESPONSE TO LYSERGIC ACID DIETHYLAMIDE. 073494 13-05  
BEHAVIORAL AND ELECTROGRAPHIC EFFECTS OF D-LYSERGIC ACID DIETHYLAMIDE (LSD-25) ON THE PHOTSENSITIVE PAPIO-PAPIO. 086702 13-03  
THE ACTION OF LYSERGIC ACID DIETHYLAMIDE (LSD-25) ON CONDITIONING AND SEDATION. 086858 13-04  
EFFECT OF Mescaline AND LYSERGIC ACID DIETHYLAMIDE ON FLICKER DISCRIMINATION IN THE RAT. 088584 13-04  
EFFECT OF N,N DIMETHYLTRYPTAMINE AND D-LYSERGIC ACID DIETHYLAMIDE ON THE RELEASE OF 5-HYDROXYINDOLES IN RAT FOREBRAIN. 095366 13-03  
LYSERGIC ACID DIETHYLAMIDE TARTRATE (LSD-25) DOSAGE LEVELS, GROUP DIFFERENCES, AND SOCIAL INTERACTION. 098888 13-12  
H3-LYSERGIC ACID DIETHYLAMIDE: CELLULAR AUTORADIOGRAPHIC LOCALIZATION IN RAT BRAIN. 098956 13-03  
USE OF LYSERGIC ACID DIETHYLAMIDE IN CHILD PSYCHIATRY. 102838 13-12  
LYSERGIC ACID DIETHYLAMIDE, AMPHETAMINE AND CHLORPROMAZINE ON WATER MAZE DISCRIMINATION IN MICE. 104812 13-04  
Mescaline AND LYSERGIC ACID DIETHYLAMIDE (LSD) AS DISCRIMINATIVE STIMULI. 106489 13-04  
THE INFLUENCE OF LYSERGIC ACID DIETHYLAMIDE ON THE ACTIVITY OF SOLITARY NEURONS OF SOME CEREBRAL REGIONS. 107722 13-03  
UNEXPLAINED INHIBITORY ACTION OF D-LYSERGIC ACID DIETHYLAMIDE (LSD) ON POSTGANGLIONIC MOTOR TRANSMISSION IN THE GUINEA-PIG VAS-DEFERENS. 109198 13-03  
STUDIES ON DEOXYRIBONUCLEIC ACID METABOLISM IN HUMAN CELLS TREATED WITH LYSERGIC ACID DIETHYLAMIDE. 120470 13-13
- DIETHYLAMINOETHYL**  
EFFECT OF DIETHYLAMINOETHYL DIPHENYLPROPYLACETATE HYDROCHLORIDE (SKF-525A) ON THE NOREPINEPHRINE DEPLETING ACTIONS OF D-AMPHETAMINE. 108286 13-03
- DIETHYLDITHIOCARBAMATE**  
THE EFFECT OF DIETHYLDITHIOCARBAMATE ON AMPHETAMINE INDUCED BEHAVIOR IN RATS. 106910 13-04
- DIETHYLPROPION**  
SOME 5-HYDROXYTRYPTAMINE-LIKE ACTIONS OF FENFLURAMINE: A COMPARISON WITH D-AMPHETAMINE AND DIETHYLPROPION. 105413 13-04
- DIFFERENCE**  
SEX DIFFERENCE IN THE METABOLISM OF HEXOBARBITAL IN THE MONGOLIAN GERBIL (MERIONES-UNGUICULATUS). 125329 13-03
- DIFFERENTIATION**  
DIFFERENTIATION OF TWO GENETICALLY SPECIFIC TYPES OF DEPRESSION BY THE RESPONSE TO ANTIDEPRESSANT DRUGS. 101434 13-10
- DIFFICULTIES**  
DIFFICULTIES OF DISULFIRAM THERAPY WITH ALCOHOLICS. 090725 13-11  
PSYCHOPHARMACOTHERAPY IN PEDOPSYCHIATRY: PARADOXICAL RESPONSES AND ENCOUNTERED DIFFICULTIES. 095743 13-15  
METHODODOLOGICAL DIFFICULTIES OF EVALUATING PSYCHOTROPIC DRUGS. 122945 13-17
- DIFFUSE**  
DIFFERENT REACTION OF FOCAL AND DIFFUSE EPILEPTIC EEG ACTIVITY TO PSILOCYBIN. 106001 13-13
- DIFFUSION**  
IN VIVO CHEMIDE DIFFUSION OF L-DOPA. 098208 13-06
- DIGITAL**  
EEG CHANGES AFTER FLUPHENAZINE ENANTHATE AND DECANOATE BASED ON ANALOG POWER SPECTRA AND DIGITAL COMPUTER PERIOD ANALYSIS. 105009 13-13  
DIGITAL COMPUTER ANALYZED RESTING AND SLEEP EEG INVESTIGATIONS AND CLINICAL CHANGES DURING MOLINDONE TREATMENT. 107244 13-08  
EFFECT OF THIOTHIXENE ON DIGITAL COMPUTER SLEEP PRINTS OF SCHIZOPHRENIC PATIENTS. 108569 13-14  
EFFECTS OF FLUPHENAZINE HYDROCHLORIDE ON DIGITAL COMPUTER SLEEP PRINTS OF SCHIZOPHRENIC PATIENTS. 108701 13-08
- DIHYDROMORPHINE-3H**  
UPTAKE OF DIHYDROMORPHINE-3H BY SYNAPTOSOMES. 082791 13-03
- DIHYDROXYBENZOIC**  
DEMONSTRATION OF 3,4 DIHYDROXYBENZOIC(14C) ACID AND (14C)VANILLIC ACID AFTER ADMINISTRATION OF (14C)NORADRENALINE IN THE RAT. 088637 13-03  
THE VIOLET PIGMENT OF LYSERGIC ACID ALKALOID PRODUCING CULTURES OF CLAVICEPS-PASPALI: FERRIC COMPLEX OF 2,3 DIHYDROXYBENZOIC ACID. 100171 13-01
- DIHYDROXYPHENYLALANINE**  
THE CRYSTAL STRUCTURE OF L-DOPA HYDROCHLORIDE, DIHYDROXYPHENYLALANINE HYDROCHLORIDE, C9H12O4NCL. 113974 13-01  
L-3,4 DIHYDROXYPHENYLALANINE METABOLISM BY THE GUT IN VITRO. 120468 13-03
- DILANTIN**  
DIPHENYLDANTOIN (DILANTIN): STIMULATION OF POTASSIUM INFLUX IN LOBSTER AXONS. 117581 13-03
- DILATOR**  
CORRELATION OF CHEMICAL STRUCTURE OF PHENOTHIAZINES WITH THEIR CORONARY DILATOR AND ANTIARRHYTHMIC ACTIVITIES. 120929 13-03
- DIMENSIONS**  
STIMULANT ACTION OF D-AMPHETAMINE IN RELATION TO TEST COMPARTMENT DIMENSIONS AND BEHAVIORAL MEASURE. 086901 13-04
- DIMETHACRINE**  
ACUTE EFFECT OF DIMETHACRINE (50MG), MEFEXAMIDE (200MG), AND DIXYRAZINE (25MG) ON HIGHER NERVOUS ACTIVITY IN MAN. 105915 13-14  
EEG FREQUENCY ANALYSIS IN THE TREATMENT WITH SOME ANTIDEPRESSANT DRUGS: (IMIPRAMINE, AMITRIPTYLINE, DIBENZEPINE, DIMETHACRINE). 112289 13-09
- DIMETHOXY-4-ETHYLAMPHETAMINE**  
DOET (2,5 DIMETHOXY-4-ETHYLAMPHETAMINE), A NEW PSYCHOTROPIC DRUG: EFFECTS OF VARYING DOSES IN MAN. 071566 13-12
- DIMETHOXY-4-METHYLAMPHETAMINE**  
THE FATE OF 2,5 DIMETHOXY-4-METHYLAMPHETAMINE (STP,DOM) IN MONKEY AND RAT BRAINS. 086148 13-03
- DIMETHOXYPHENYLETHYLAMINE**  
COMPARISON OF METABOLISM OF Mescaline AND 3,4 DIMETHOXYPHENYLETHYLAMINE IN HUMANS. 098095 13-13

# Subject Index

# Psychopharmacology Abstracts

- DIMETHOXYPHENYLETHYLAMINE-C14**  
A COMPARATIVE STUDY ON THE METABOLISM OF 3,4-DIMETHOXYPHENYLETHYLAMINE-C14 AND Mescaline-C14 BY RABBIT, MOUSE AND RAT BRAIN HOMOGENATES. 106527 13-03
- DIMETHOXYPHENYLISOPROPYLAMINE**  
4-BROMO-2,5-DIMETHOXYPHENYLISOPROPYLAMINE, A NEW CENTRALLY ACTIVE AMPHETAMINE ANALOG. 105535 13-07
- DIMETHYL**  
CIS- AND TRANS-2-(3,4,5-TRIMETHOXYPHENYL)CYCLOHEXYLAMINES: N-METHYL AND N,N-DIMETHYL DERIVATIVES. 082764 13-01  
EFFECT OF DIMETHYL AND MONOMETHYL TRICYCLIC ANTIDEPRESSANTS ON CENTRAL 5-HYDROXYTRYPTAMINE PROCESSES IN THE FROG. 106426 13-03
- DIMETHYLOAMINOETHANOLIC**  
CHOLINESTERASE ACTIVITY IN THE ERYTHROCYTES AND BLOOD PLASMA OF SCHIZOPHRENIC PATIENTS DURING TREATMENT WITH DIMETHYLOAMINOETHANOLIC ESTERS. 118204 13-08
- DIMETHYLSULFOXIDE**  
EFFECTS OF MAGNESIUM PEMOLINE IN DIMETHYLSULFOXIDE ON REVERSAL LEARNING, MOTOR ACTIVITY, AND WATER INTAKE. 079611 13-04
- DIMETHYLTRYPTAMINE**  
EFFECT OF N,N-DIMETHYLTRYPTAMINE AND D-LYSERGIC ACID DIETHYLAMIDE ON THE RELEASE OF 5-HYDROXYINDOLES IN RAT FOREBRAIN. 095366 13-03  
INHIBITORY EFFECT OF CHLORPROMAZINE ON THE SYNDROME OF HYPERACTIVITY PRODUCED BY L-TRYPTOPHAN OR 5-METHOXY-N,N-DIMETHYLTRYPTAMINE TREATED WITH A MONOAMINE OXIDASE INHIBITOR. 108795 13-03  
EFFECTS OF PSILOCYBIN, DIMETHYLTRYPTAMINE, Mescaline AND VARIOUS LYSERGIC ACID DERIVATIVES ON THE EEG AND ON PHOTICALLY INDUCED EPILEPSY (PAPIO-PAPIO). 109620 13-03  
ANALYSIS OF THE CENTRAL EFFECT OF TRYPTAMINE AND N,N-DIMETHYLTRYPTAMINE. 111132 13-03
- DIPHACYL**  
THE INFLUENCE OF AMIZYL AND DIPHACYL ON PROCESSES OF CAPTURE AND DISCHARGE OF NOREPINEPHRINE. 107723 13-03
- DIPHENHYDRAMINE**  
THE EFFECTS OF DIAZEPAM OR DIPHENHYDRAMINE ON HEALTHY HUMAN SUBJECTS. 102194 13-14
- DIPHENYLHYDANTOIN**  
DIPHENYLHYDANTOIN AND ALCOHOL WITHDRAWAL. 087475 13-11  
PHARMACOLOGY AND MECHANISMS OF ACTION OF DIPHENYLHYDANTOIN. 093933 13-03  
THE INEFFECTIVENESS OF DIPHENYLHYDANTOIN IN PREVENTING FEBRILE CONVULSIONS IN THE AGE OF GREATEST RISK, UNDER THREE YEARS. 100844 13-11  
DIPHENYLHYDANTOIN IN THE TREATMENT OF ALCOHOL WITHDRAWAL. 101687 13-11  
SIMILARITY OF DIAZEPAM TO DIPHENYLHYDANTOIN. 107716 13-13  
EFFECT OF DIPHENYLHYDANTOIN ON HEXOBARBITAL SLEEP TIME IN MICE AND RATS. 107944 13-03  
DIPHENYLHYDANTOIN (DILANTIN): STIMULATION OF POTASSIUM INFLUX IN LOBSTER AXONS. 117581 13-03
- DIPHENYLPROPYLACETATE**  
EFFECT OF DIETHYLAMINOETHYL DIPHENYLPROPYLACETATE HYDROCHLORIDE (SKF-525A) ON THE NOREPINEPHRINE DEPLETING ACTIONS OF D-AMPHETAMINE. 108286 13-03
- DIPIPERON**  
TREATMENT WITH DIPIPERON IN AN OUTPATIENT DEPARTMENT FOR CHILDREN AND ADOLESCENTS. 100562 13-11
- DIPYROXIME**  
USE OF ONE OF THE CHOLINESTERASE REACTIVATORS, DIPYROXIME, FOR TREATMENT OF MENTAL PATIENTS. 113748 13-14
- DIRECT**  
INTRAVENOUS DIAZEPAM FOR DIRECT CURRENT CARDIOVERSION. 101990 13-16  
DIFFERENCES IN TOLERANCE TO Mescaline PRODUCED BY PERIPHERAL AND DIRECT CENTRAL ADMINISTRATION. 125255 13-03

- DISABILITIES**  
PREDICTING THE RESPONSE OF CHILDREN WITH LEARNING DISABILITIES AND BEHAVIOR PROBLEMS TO DEXTROAMPHETAMINE SULFATE. 077911 13-11
- DISCHARGE**  
THE INFLUENCE OF AMIZYL AND DIPHACYL ON PROCESSES OF CAPTURE AND DISCHARGE OF NOREPINEPHRINE. 107723 13-03
- DISCHARGES**  
SUPPRESSION OF HIPPOCAMPAL DFP DISCHARGES BY CHLORPROMAZINE, IMIPRAMINE AND DESIPRAMINE. 088733 13-03
- DISCIPLINES**  
THE POSITION OF BIOLOGICAL PSYCHIATRY AMONG THE PSYCHIATRIC DISCIPLINES. 087865 13-17
- DISCONTINUANCE**  
EXPERIMENTAL CHARACTERISTICS OF SOME MANIFESTATIONS COMMON TO THE WITHDRAWAL SYNDROME FOLLOWING DISCONTINUANCE OF LONG-TERM ADMINISTRATION OF DIAZEPAM AND CHLORDIAZEPOXIDE. 111134 13-04
- DISCONTINUATION**  
DISCONTINUATION OF CHEMOTHERAPY FOR CHRONIC SCHIZOPHRENICS. 069197 13-08
- DISCRIMINATED**  
EFFECTS OF L-DELTA-TETRAHYDROCANNABINOL ON TEMPORALLY SPACED RESPONDING AND DISCRIMINATED SIDMAN AVOIDANCE BEHAVIOR IN RATS. 098924 13-04
- DISCRIMINATION**  
PROACTIVE AND RETROACTIVE EFFECTS OF DIETHYL ETHER ON SPATIAL DISCRIMINATION LEARNING IN INBRED MOUSE STRAINS DBA/2J AND C57BL/6J. 079532 13-14  
EFFECT OF Mescaline AND LYSERGIC ACID DIETHYLAMIDE ON FLICKER DISCRIMINATION IN THE RAT. 088584 13-04  
EFFECTS OF SCOPOLAMINE ON HIPPOCAMPAL THETA AND CORRELATED DISCRIMINATION PERFORMANCE. 102390 13-04  
BEHAVIORAL AND EEG PATTERNS IN THE CAT COINCIDENT WITH SYSTEMATIC AND INTRACRANIAL STIMULATION WITH D-AMPHETAMINE SULFATE DURING A VISUAL DISCRIMINATION TASK. (PH.D. DISSERTATION). 102635 13-03  
EFFECTS OF NICOTINE, NICOTINE MONOMETHIODIDE, LOBELINE, CHLORDIAZEPOXIDE, MEPROBAMATE AND CAFFEINE ON A DISCRIMINATION TASK IN LABORATORY RATS. 104433 13-04  
LYSERGIC ACID DIETHYLAMIDE, AMPHETAMINE AND CHLORPROMAZINE ON WATER MAZE DISCRIMINATION IN MICE. 104812 13-04  
TWENTY-FOUR-HOUR PROACTIVE FACILITATION OF AVOIDANCE AND DISCRIMINATION LEARNING IN RATS BY D-AMPHETAMINE. 106786 13-04  
EFFECTS OF POST-TRIAL INJECTIONS OF SCOPOLAMINE AND ESERINE ON ACQUISITION OF A SIMULTANEOUS BRIGHTNESS DISCRIMINATION. 111052 13-04  
EFFECTS OF DRUG STATE CHANGES UPON BLACK WHITE DISCRIMINATION LEARNING IN RATS. 125253 13-04
- DISCRIMINATIVE**  
Mescaline AND LYSERGIC ACID DIETHYLAMIDE (LSD) AS DISCRIMINATIVE STIMULI. 106489 13-04  
CNS EFFECT OF NICOTINE AS THE DISCRIMINATIVE STIMULUS FOR THE RAT IN A T-MAZE. 108732 13-04
- DISEASE**  
ANALGESICS AND PSYCHOTROPIC DRUGS IN THE MANAGEMENT OF DISEASE OF THE GUT. 087867 13-17  
EFFECTS OF ACTH ON VOLES (MICROTUS-PENNSYLVANICUS) RELATED TO REPRODUCTIVE FUNCTION AND RENAL DISEASE. 089016 13-03  
ADVERSE REACTIONS DURING TREATMENT OF PARKINSONS DISEASE WITH LEVODOPA. 095426 13-15  
CONTROLLED TRIAL OF AMANTADINE HYDROCHLORIDE IN PARKINSONS DISEASE. 095622 13-11  
GLUCOSE, INSULIN, AND FREE FATTY ACID METABOLISM IN PARKINSONS DISEASE TREATED WITH LEVODOPA. 096471 13-13  
EEG, EVOKED POTENTIAL, AND CONTINGENT NEGATIVE VARIATIONS WITH LITHIUM IN MANIAC DEPRESSIVE DISEASE. 097458 13-09

- CROHNS DISEASE: TREATMENT BY CORTICOSTEROIDS, ANTIBIOTICS AND PSYCHOTHERAPY. 100854 13-11
- TREATMENT OF PATIENTS WITH TRAUMATIC EPILEPSY IN THE INITIAL PERIOD OF THE DISEASE. 102827 13-13
- DRUGS, DRY MOUTH, AND DENTAL DISEASE. 103633 13-15
- PARKINSONS DISEASE: A NEW APPROACH TO TREATMENT. 110002 13-11
- TRICYCLIC ANTIDEPRESSANTS AND HEART DISEASE. 111564 13-15
- TRICYCLIC ANTIDEPRESSANTS AND HEART DISEASE. 111724 13-15
- CLINICAL AND ELECTROENCEPHALOGRAPHIC ASSESSMENT OF DIAZEPAM IN LIVER DISEASE. 111963 13-15
- DISEASES**
- LIDANIL - A NEW TRANQUILIZING AGENT IN THE CLINIC OF INTERNAL DISEASES. 110474 13-07
- DISINHIBITION**
- CENTRAL CHOLINERGIC BLOCKADE AND TWO-WAY AVOIDANCE ACQUISITION: THE ROLE OF RESPONSE DISINHIBITION. 102097 13-04
- DISODIUM**
- ALTERATIONS IN TREMOR REGULATION AFTER INTRACAUDATE INJECTIONS OF CALCIUM IONS OR DISODIUM EDETATE. 122541 13-03
- DISORDER**
- DEXTOAMPHETAMINE RESPONSIVE BEHAVIOR DISORDER IN SCHOOL CHILDREN. 100813 13-14
- DISORDERS**
- THE USE OF MEGAVITAMIN THERAPY IN REGULATING SEVERE BEHAVIOR DISORDERS, DRUG ABUSES AND FRANK PSYCHOSIS. 082735 13-17
- THE USE OF VALNOCTAMIDE IN THE TREATMENT OF CERTAIN BEHAVIOR DISORDERS IN CHILDREN. 086774 13-14
- MOTOR DISORDERS INDUCED BY NEUROLEPTICS: A PROPOSED NEW CLASSIFICATION. 088201 13-15
- PREDICTION OF DRUG EFFECT IN PERSONALITY DISORDERS. 088295 13-17
- AER IN AFFECTIVE DISORDERS (UNPUBLISHED PAPER). 088385 13-09
- EXPERIENCE WITH LITHIUM PROPHYLAXIS OF RECURRENT EMOTIONAL DISORDERS IN A PSYCHIATRIC OUTPATIENTS CLINIC. 089129 13-17
- AER IN AFFECTIVE DISORDERS. 092743 13-11
- CLOZAPINE, A NONCATALEPTOGENIC NEUROLEPTIC FOR THE TREATMENT OF AGITATED CONDITION BEHAVIORAL DISORDERS. 094970 13-14
- LEARNING DISORDERS, HYPERKINESIS, AND THE USE OF DRUGS IN CHILDREN. 095459 13-14
- METHODOLOGY FOR DRUG EVALUATION IN AFFECTIVE DISORDERS: DEPRESSION. AGENTS. 095537 13-09
- METHODOLOGY FOR DRUG EVALUATION IN AFFECTIVE DISORDERS: MANIA. AGENTS. 095538 13-09
- METHODS FOR EVALUATING DRUG EFFICACY IN GERIATRIC PSYCHIATRIC DISORDERS. 095540 13-11
- APPROACHES TO MEASURING THE EFFICACY OF DRUG TREATMENT OF PERSONALITY DISORDERS: AN ANALYSIS AND PROGRAM. 095542 13-10
- NEUROPHYSIOLOGICAL CORRELATES OF AFFECTIVE DISORDERS. 095943 13-13
- CLINICAL EXPERIENCE WITH THIORIDAZINE (MELLERIL) IN THE TREATMENT OF ANXIETY AND DEPRESSION ASSOCIATED WITH EMOTIONAL DISORDERS IN GENERAL PRACTICE. 097556 13-10
- EXTRAPYRAMIDAL DISORDERS AFTER PROLONGED PHENOTHIAZINE THERAPY. 099120 13-15
- FLUPENTHIXOL (FLUANXOL) IN THE TREATMENT OF PSYCHOSOMATIC DISORDERS IN MEDICINE. 099882 13-10
- LITHIUM FOR MANIC-DEPRESSIVE DISORDERS: CHALLENGE TO ELECTROSHOCK THERAPY? 100236 13-09
- LITHIUM AND RUBIDIUM: A ROLE IN THE AFFECTIVE DISORDERS. 102592 13-09
- EXPERIENCE WITH ADMINISTRATION OF MOYLEPTIL FOR THE TREATMENT OF EMOTIONAL DISORDERS AND BEHAVIORAL DISTURBANCES IN EPILEPTIC PATIENTS. 102795 13-11
- LITHIUM CARBONATE: A SURVEY OF THE HISTORY AND CURRENT STATUS OF LITHIUM IN TREATING MOOD DISORDERS. (UNPUBLISHED PAPER). 106053 13-09
- PROPHYLACTIC LITHIUM IN AFFECTIVE DISORDERS. 109105 13-09
- SOME APPROACHES TO THE TREATMENT OF PHOBIC DISORDERS. 109845 13-10
- USE OF TEGRETOL IN THE TREATMENT OF EPILEPTIC PATIENTS WITH MENTAL DISORDERS. 110120 13-11
- ADRENERGIC MECHANISMS IN HYPOGLYCEMIC SHOCK IN RABBITS: II. DISORDERS OF ADRENERGIC RESPONSE COMPENSATING HYPOGLYCEMIA IN RABBITS TREATED WITH SMALL DOSES OF RESERPINE. 119648 13-03
- PHARMACOLOGICAL TREATMENTS FOR PERSONALITY DISORDERS. 121428 13-04
- SEROTONIN AND SEVERE AFFECTIVE DISORDERS. 122374 13-09
- PERCUTANEOUS DEXAMETHASONE AND FUNCTIONAL REHABILITATION IN NEUROLOGICAL DISORDERS. 122393 13-11
- PSYCHOSOMATIC ASPECTS OF GASTROENTEROLOGICAL DISORDERS. 125956 13-17
- TREATMENT OF NEUROPSYCHIATRIC DISORDERS WITH PYRIDINE-BETA-CARBONIC ACID. PART II. 126008 13-11
- DISPENSATION**
- PROPHYLACTIC DISPENSATION OF LITHIUM CARBONATE IN AFFECTIVE PSYCHOSES. 087191 13-11
- DISPERSION**
- INJECTIBLE DISPERSION OF DELTA9-TETRAHYDROCANNABINOL IN SALINE USING POLYVINYLPIRROLIDONE. 088638 13-06
- DISPOSITION**
- DIFFERENTIAL EFFECTS OF D- AND L-AMPHETAMINE ON BEHAVIOR AND ON CATECHOLAMINE DISPOSITION IN DOPAMINE AND NOREPINEPHRINE CONTAINING NEURONS OF RAT BRAIN. 078134 13-04
- THE DISPOSITION AND METABOLISM OF TRYPTAMINE AND THE IN VIVO FORMATION OF 6-HYDROXYTRYPTAMINE IN THE RABBIT. 082786 13-03
- BIOLOGICAL DISPOSITION AND METABOLIC FATE OF FLUPHENAZINE-14C IN THE DOG AND RHESUS MONKEY. 086580 13-03
- BIOLOGICAL DISPOSITION OF PENTYLENETETRAZOL-10-14C IN RATS AND HUMANS. 087061 13-03
- METABOLISM AND DISPOSITION OF TETRAHYDROCANNABINOLS IN NAIVE SUBJECTS AND MARIJUANA USERS (UNPUBLISHED PAPER). 092894 13-13
- THE EFFECT OF CAFFEINE AND THEOPHYLLINE ON THE DISPOSITION OF BRAIN SEROTONIN IN THE RAT. 107161 13-03
- DISPUTE**
- PILLS FOR LEARNING: DISPUTE FAILS TO HALT USE OF DRUGS TO CALM HYPERACTIVE CHILDREN. 078100 13-17
- DISRUPTING**
- TEMPORAL EFFECTS OF RNASE AND DNASE IN DISRUPTING ACQUIRED ESCAPE BEHAVIOR IN REGENERATED PLANARIA. 079423 13-04
- DISRUPTION**
- THE EFFECTS OF NALOXONE, CHLORPROMAZINE, AND HALOPERIDOL PRETREATMENT ON LEVALLORPHAN INDUCED DISRUPTION OF RATS OPERANT BEHAVIOR. 111145 13-04
- DISSOCIABLE**
- CYCLOHEXIMIDE: ITS EFFECTS ON ACTIVITY ARE DISSOCIABLE FROM ITS EFFECTS ON MEMORY. 089015 13-04
- DISSOCIATED**
- ANIMAL DISSOCIATED LEARNING AS AFFECTED BY PENTOBARBITAL ADMINISTRATION. 109736 13-04
- DISSOCIATION**
- DISSOCIATION BETWEEN EEG AND SPONTANEOUS BEHAVIOUR OF RATS AFTER ATROPINE. 106094 13-03

## Subject Index

- DISSOCIATIVE**  
DISSOCIATIVE EFFECTS OF DRUGS ON THE EXTINCTION OF CONDITIONED SUPPRESSION IN THE RAT. 086772 13-04
- DISSOLUTION**  
ENHANCED DISSOLUTION RATES FOR A SERIES OF DRUGS AS A FUNCTION OF DOSAGE FORM DESIGN. 100829 13-17
- DISSONANCE**  
EFFECTS OF DIAZEPAM AND MECLIZINE HYDROCHLORIDE ON EMOTIONAL UPSET DUE TO PERCEPTUAL DISSONANCE AND MOTION. 101578 13-04
- DISTORTION**  
DRUG-INDUCED DISTORTION OF VISUAL SPACE. 108976 13-14
- DISTRESS-EVOKED**  
DRUG EFFECTS ON DISTRESS-EVOKED BEHAVIOR IN MICE: METHODOLOGY AND DRUG CLASS COMPARISONS. 104137 13-04
- DISTRIBUTION**  
THE SUBCELLULAR DISTRIBUTION OF ENDOGENOUS AND EXOGENOUS SEROTONIN IN BRAIN TISSUE: COMPARISON OF SYNAPTOSOMES STORING SEROTONIN, NOREPINEPHRINE, AND GAMMA-AMINOBUTYRIC ACID. 077855 13-03  
METABOLISM, DISTRIBUTION AND EXCRETION OF FLUPENTHIXOL DECANOATE IN DOGS AND RATS. 098615 13-03  
WHOLE-BODY AND REGIONAL BRAIN DISTRIBUTION OF DIAZEPAM IN NEWBORN RHESUS MONKEYS. 103651 13-03  
REGIONAL DISTRIBUTION OF PERSISTENTLY BOUND RESERPINE IN RAT BRAIN. 105704 13-03  
ENTRY AND DISTRIBUTION OF HEXAMETHONIUM IN THE CENTRAL NERVOUS SYSTEM. 105706 13-03  
INFLUENCE OF A CHRONIC TREATMENT ON THE DISTRIBUTION OF AMITRIPTYLINE AND METABOLITES IN RABBIT BRAIN. 105708 13-03  
THE UPTAKE AND SUBCELLULAR DISTRIBUTION OF AROMATIC AMINES IN THE BRAIN OF THE RAT. 106922 13-03  
DISTRIBUTION IN THE ORGANISM AND THE ELIMINATION OF LITHIUM. 107726 13-03  
SUBCELLULAR DISTRIBUTION OF 8-14C-MESCALINE IN THE MOUSE BRAIN AND LIVER. 120471 13-03  
DISTRIBUTION OF ELECTROLYTES WITHIN THE BRAIN OF LITHIUM TREATED RATS. 123289 13-03  
UPTAKE AND DISTRIBUTION OF DRUGS IN THE FETUS. 123290 13-03
- DISTURBANCE**  
EMOTIONAL DISTURBANCE ACCOMPANYING THE TREATMENT OF PARKINSONISM WITH L-DOPA. 069514 13-14  
AFFECTIVE DISTURBANCE IN HYPOTHYROIDISM. 101896 13-09
- DISTURBANCES**  
EXPERIENCE WITH ADMINISTRATION OF NOYLEPTIL FOR THE TREATMENT OF EMOTIONAL DISORDERS AND BEHAVIORAL DISTURBANCES IN EPILEPTIC PATIENTS. 102795 13-11  
ENDOGENOUS DEPRESSIONS WITH AND WITHOUT DISTURBANCES IN THE 5-HYDROXYTRYPTAMINE METABOLISM: A BIOCHEMICAL CLASSIFICATION. 104832 13-13  
NC-123 IN THE TREATMENT OF DISTURBANCES OF SEXUAL POTENCY. 105922 13-14  
ASSESSMENT OF THE CLINICAL ACTION OF THE PREPARATION TPN-12 SANDOZ IN THE TREATMENT OF MENTAL DISTURBANCES. 122946 13-11  
AMENTAL AND APHASIC DISTURBANCES APPEARING DURING PSYCHOPHARMACOLOGIC THERAPY. 125070 13-15
- DISTURBED**  
STUDY OF MOLINDONE IN DISTURBED PRESCHOOL CHILDREN. 074814 13-08  
THE HAZARDS OF USE OF MONOAMINE OXIDASE INHIBITORS IN DISTURBED ADOLESCENTS. 089080 13-15  
DISTURBED PATTERNS OF BEHAVIOUR IN MORPHINE TOLERANT AND ABSTINENT RATS. 096150 13-04  
PENTYLENETETRAZOL IN THE TREATMENT OF GERIATRIC PATIENTS WITH DISTURBED MEMORY FUNCTION. 098611 13-11

## Psychopharmacology Abstracts

- LONG-TERM EFFECTS OF HALOPERIDOL ON SEVERELY EMOTIONALLY DISTURBED CHILDREN. 118717 13-11
- DISULFIRAM**  
A CONTRIBUTION TO ETIOPATHOGENESIS OF DISULFIRAM ALCOHOLIC PSYCHOSES. 087136 13-15  
THE PHARMACOLOGY OF DISULFIRAM IN THE TREATMENT OF ALCOHOLISM. 088510 13-13  
DIFFICULTIES OF DISULFIRAM THERAPY WITH ALCOHOLICS. 090725 13-11  
PERIPHERAL NEUROPATHY AND DISULFIRAM. 100056 13-15  
THE INFLUENCE OF TRAINING AND AVOIDANCE PERFORMANCE ON DISULFIRAM INDUCED CHANGES IN BRAIN CATECHOLAMINES. 100216 13-03  
IMPAIRMENT OF DRUG METABOLISM BY DISULFIRAM IN MAN. 100419 13-13
- DISULFONATE**  
IMPAIRED BILIARY EXCRETION OF PHENOL 3,6 DIBROMPHTHALEIN DISULFONATE IN NEONATAL GUINEA-PIGS. 089284 13-03
- DISULFOTON**  
EXPLORATORY BEHAVIOR IN CHRONIC DISULFOTON POISONING IN MICE. 104136 13-04
- DIURETIC**  
ACUTE DIURETIC RESPONSE TO GUANETHIDINE AND RESERPINE. 122536 13-03
- DIURNAL**  
SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: CHANGES IN THE DIURNAL RHYTHM AND PSYCHIATRIC MENTAL STATUS ON WITHDRAWAL OF DRUGS. 106050 13-08  
DIURNAL VARIATION OF HEPATIC AMPHETAMINE CONCENTRATIONS IN MICE FED FREELY AND FED SINGLE DAILY MEALS. 106425 13-03
- DIXYRAZINE**  
A COMPARISON BETWEEN DIAZEPAM, DIXYRAZINE, OPRIPRAMOL AND PLACEBO IN ANXIETY STATES. 101410 13-10  
ACUTE EFFECT OF DIMETHACRINE (50MG), MEFEAMIDE (200MG), AND DIXYRAZINE (25MG) ON HIGHER NERVOUS ACTIVITY IN MAN. 105915 13-14
- DL-ALPHA-METHYLTRYPTOPHAN**  
REGIONAL AND SUBCELLULAR CHANGES IN THE CONCENTRATION OF 5-HYDROXYTRYPTAMINE AND 5-HYDROXYINDOLEACETIC ACID IN THE RAT BRAIN CAUSED BY HYDROCORTISONE, DL-ALPHA-METHYLTRYPTOPHAN, L-KYNURENINE AND IMMOBILIZATION. 104538 13-03
- DL-PROPRANOLOL**  
EFFECTS OF CHLORPROMAZINE, DL-PROPRANOLOL, AND D-PROPRANOLOL IN THE ISOLATED RAT HEART: MODIFICATION OF THE RESPONSE TO ISOPRENALINE AND GLUCAGON. 120719 13-03
- DL-SERYL**  
REDUCTION OF HISTAMINE IN MOUSE BRAIN BY NL (DL-SERYL)-N2-(2,3,4 TRIHYDROXYBENZYL) HYDRAZINE AND RESERPINE. 122546 13-03
- DMAE**  
DIFFERENTIAL ANTAGONISM BETWEEN DMAE (A HEMICHOLINIUM DERIVATIVE) AND ATROPINE ON CONTRACTILE RESPONSES OF THE RAT ILEUM. 104327 13-03
- DMI**  
DESIPRAMINE (DMI): EFFECT ON THE LEVELS OF ACETYLCHOLINE (ACH) IN WHOLE BRAIN AND IN STRIATUM OF RATS. 086811 13-03
- DMPEA**  
CROSS-TOLERANCE BETWEEN P-METHOXYPHENYLETHYLAMINE (PMEA), 3,4 DEMETHOXYPHENYLETHYLAMINE (DMPEA) AND P-BROMOMETHAMPHETAMINE (PBMA, V111). 123270 13-04
- DNA**  
LSD-25 DOES NOT INTERCALATE IN DNA. 101768 13-03  
OPTICAL ACTIVITY OF LSD DNA MIXTURES. 101769 13-03
- DNASE**  
TEMPORAL EFFECTS OF RNASE AND DNASE IN DISRUPTING ACQUIRED ESCAPE BEHAVIOR IN REGENERATED PLANARIA. 079423 13-04
- DOCTOR**  
DRUG, DOCTOR WARMTH, AND CLINIC SETTING IN THE SYMPTOMATIC RESPONSE TO MINOR TRANQUILIZERS. 104143 13-10

- DOCTORS**  
COMPARISON OF THIORIDAZINE AND CHLORPROMAZINE IN DOCTORS CHOICE RESEARCH DESIGN. 100438 13-16
- DOET**  
DOET (2,5 DIMETHOXY-4-ETHYLAMPHETAMINE), A NEW PSYCHOTROPIC DRUG: EFFECTS OF VARYING DOSES IN MAN. 071566 13-12
- DOG**  
EXCRETION AND BIOTRANSFORMATION OF THE ENANTHATE ESTER OF FLUPHENAZINE-14C BY THE DOG. 086578 13-03  
IDENTIFICATION OF 7-HYDROXYFLUPHENAZINE AS MAJOR METABOLITE OF FLUPHENAZINE-14C IN THE DOG. 086579 13-03  
BIOLOGICAL DISPOSITION AND METABOLIC FATE OF FLUPHENAZINE-14C IN THE DOG AND RHESUS MONKEY. 086580 13-03  
EFFECT OF DRUGS USED IN STATUS-EPILEPTICUS ON THE POTASSIUM FLUXES OF CEREBROSPINAL FLUID IN THE CONSCIOUS DOG. 120412 13-03  
A STUDY OF THE INDUCTION EFFECT OF PHENOBARBITAL, DIAZEPAM, OXAZEPAM IN THE DOG. 123293 13-03
- DOGMATIL**  
A RECENT CLINICAL TRIAL WITH DOGMATIL. 077703 13-07  
CLINICAL AND PHARMACOLOGICAL INVESTIGATION OF A NEW PSYCHOTROPIC DRUG SULPIRIDE (DOGMATIL). 105825 13-07
- DOGS**  
BLOOD VOLUME FOLLOWING ACUTE ETHYL-ALCOHOL INGESTION IN DOGS. 078165 13-03  
METABOLISM, DISTRIBUTION AND EXCRETION OF FLUPENTHIXOL DECANOATE IN DOGS AND RATS. 098615 13-03  
THE COMPARISON OF THE STEREOTYPED BEHAVIOR INDUCING EFFECTS OF D-AMPHETAMINE AND L-AMPHETAMINE IN DOGS. 099110 13-04  
PHARMACOKINETICS OF DIAZEPAM IN DOGS, MICE AND HUMANS. 106616 13-13  
HYPERKINETIC DOGS CALMED BY DEXAMPHETAMINE. 111215 13-14  
REVERSAL OF CHLORPROMAZINE INDUCED HYPOTENSION BY CALCIUM CHLORIDE IN DOGS. 119691 13-04  
THE APOMORPHINE ANTAGONISM TEST IN DOGS: EXPERIMENTAL EVIDENCE AND CRITICAL CONSIDERATIONS ON SPECIFIC METHODOLOGICAL CRITERIA. 121221 13-06  
PROLONGED EFFECTS OF RESERPINE ADMINISTRATION ON ADRENOCEPTOR ACTIVITY IN DOGS. 122548 13-03  
CARDIOVASCULAR EFFECTS OF CHRONIC RESERPINE ADMINISTRATION IN MONGREL DOGS. 125650 13-03
- DOMINANCE**  
DEPRESSION AND CEREBRAL DOMINANCE: A STUDY OF BILATERAL INTRACAROTID AMYTAL IN ELEVEN DEPRESSED PATIENTS. 093815 13-09
- DONATING**  
ON THE ELECTRON DONATING PROPERTIES OF THE MAJOR TRANQUILIZERS. 067366 13-01
- DOPA**  
CHRONIC DOPA TREATMENT: EFFECT ON THE CONCENTRATION OF NOREPINEPHRINE IN THE HEARTS AND BRAINS OF RATS. 083161 13-03  
DOPA REVERSAL OF RESERPINE ENHANCEMENT OF AUDIOGENIC SEIZURE SUCCEPTIBILITY IN MICE. 088577 13-03  
DECARBOXYLATION OF RADIOACTIVE DOPA BY ERYTHROCYTES IN SCHIZOPHRENIA. 100598 13-14  
CHANGES IN THE FORMATION OF 3H-CATECHOLAMINES FROM 3H-DOPA AND 3H-TYROSINE INDUCED BY UNLABELLED DOPA. 103313 13-03
- DOPA-DECARBOXYLASE**  
POTENTIATION OF EFFECTS OF L-DOPA ON CONDITIONED AVOIDANCE BEHAVIOR BY INHIBITION OF EXTRACEREBRAL DOPA-DECARBOXYLASE. 088685 13-03  
INHIBITION OF DRUG METABOLISM BY LEVODOPA IN COMBINATION WITH A DOPA-DECARBOXYLASE INHIBITOR. 111618 13-13
- DOPACHROME**  
DOUBLE-BLIND STUDY ON THE CORRELATIONS OF URINARY ELIMINATION OF CATECHOLAMINES AND THEIR METABOLITES (SUPPOSED TO COME THROUGH ADRENOCHROME, NORADRENOCHROME AND DOPACHROME) WITH CLINICAL STATE OF 50 PATIENTS UNDER DIFFERENT PSYCHOPHARMACOLOGIC DRUG. 087003 13-13
- DOPAMINE**  
DIFFERENTIAL EFFECTS OF D- AND L-AMPHETAMINE ON BEHAVIOR AND ON CATECHOLAMINE DISPOSITION IN DOPAMINE AND NOREPINEPHRINE CONTAINING NEURONS OF RAT BRAIN. 078134 13-04  
EFFECTS OF SOME PSYCHOTROPIC DRUGS ON DOPAMINE SYNTHESIS IN THE RAT STRIATUM. 082783 13-03  
DOPAMINE NOREPINEPHRINE, ANOTHER REGULATORY STEP OF NOREPINEPHRINE SYNTHESIS IN CENTRAL NORADRENERGIC NEURONS. 082825 13-03  
A SIMPLE PROCEDURE FOR CALCULATING THE SYNTHESIS RATE OF NOREPINEPHRINE, DOPAMINE AND SEROTONIN IN RAT BRAIN. 082879 13-06  
ON THE MODE OF ACTION OF RESERPINE ON DOPAMINE METABOLISM IN THE RAT STRIATUM. 083162 13-03  
BEHAVIORAL EFFECTS OF DOPAMINE AND P-HYDROXYAMPHETAMINE INJECTED INTO CORPUS-STRIATUM OF RATS. 085234 13-04  
ROLE OF CEREBRAL DOPAMINE IN THE ACTION OF PSYCHOTROPIC DRUGS. 087361 13-04  
DEPLETION OF BRAIN NORADRENALINE AND DOPAMINE BY 6-HYDROXYDOPAMINE. 088706 13-03  
ROLE OF BRAIN ACETYLCHOLINE AND DOPAMINE IN ACUTE NEUROTIC EFFECTS OF DDT. 099652 13-05  
THE RELATIONSHIP BETWEEN THE INHIBITION OF DOPAMINE UPTAKE AND THE ENHANCEMENT OF AMPHETAMINE STEREOTYPY. 100566 13-03  
EFFECT OF CHLORPROMAZINE, DESMETHYLIMIPRAMINE AND LITHIUM ON DOPAMINE UPTAKE IN THE RAT PANCREAS. 103312 13-03  
STIMULATION OF BRAIN DOPAMINE SYNTHESIS BY GAMMA-HYDROXYBUTYRATE. 104010 13-03  
RETARDED DEPRESSION AND THE DOPAMINE METABOLISM. 104829 13-13  
INHIBITION OF D-AMPHETAMINE HYPERTHERMIA BY BLOCKADE OF DOPAMINE RECEPTORS IN RABBITS. 105404 13-03  
THE INFLUENCE OF PARGYLINE ON THE EFFECTS OF IN VITRO DOPAMINE INFUSIONS IN THE CAT SPLEEN. 107193 13-03  
POSSIBLE ROLE OF DOPAMINE CONTAINING NEURONES IN THE BEHAVIOURAL EFFECTS OF COCAINE. 109196 13-03  
AUTORADIOGRAPHY OF SOME SUSPECTED NEUROTRANSMITTER SUBSTANCES: GABA GLYCINE, GLUTAMIC ACID, HISTAMINE, DOPAMINE, AND L-DOPA. 109417 13-03  
MODIFICATION OF THE ANTINOCICEPTIVE ACTIVITY OF MORPHINE BY CENTRALLY ADMINISTERED OUABAIN AND DOPAMINE. 110188 13-03  
DOPAMINE: RELEASE FROM THE BRAIN IN VIVO BY AMANTADINE. 112064 13-13  
FORMATION OF (3H)NORADRENALINE AND (3H)DOPAMINE IN THE BRAIN AND HEART OF THE RAT FETUS. 115310 13-03  
A RAPID, SIMPLIFIED PROCEDURE FOR SIMULTANEOUS ASSAY OF NOREPINEPHRINE, DOPAMINE, AND 5-HYDROXYTRYPTAMINE FROM DISCRETE BRAIN AREAS. 117510 13-06  
EFFECT OF RESERPINE ON RELEASE OF (3H)NORADRENALINE, (3H)DOPAMINE AND (3H)METARAMINOL FROM FIELD STIMULATED RAT IRIS. 118563 13-03  
IMPORTANCE OF NERVOUS IMPULSE FLOW FOR THE NEUROLEPTIC INDUCED INCREASE IN AMINE TURNOVER IN CENTRAL DOPAMINE NEURONS. 120717 13-03  
EVIDENCE FOR A NEW TYPE OF DOPAMINE RECEPTOR STIMULATING AGENT. 122547 13-03
- DOPAMINE-BETA-HYDROXYLASE**  
TRANSYNAPTIC INDUCTION OF DOPAMINE-BETA-HYDROXYLASE IN ADRENERGIC TISSUES OF THE RAT (UNPUBLISHED PAPER). 092859 13-03

## Subject Index

- SERUM DOPAMINE-BETA-HYDROXYLASE: DECREASE AFTER CHEMICAL SYMPLECTOMY. 099018 13-03
- BEHAVIOURAL AND BIOCHEMICAL EFFECTS OF L-DOPA AFTER INHIBITION OF DOPAMINE-BETA-HYDROXYLASE IN RESERPINE PRETREATED RATS. 119532 13-03
- DOPAMINE-LIKE**  
ON THE DOPAMINE-LIKE ACTION OF APOMORPHINE. 122545 13-04
- DORSALIS**  
INCREASE OF MORPHINE INDUCED ANALGESIA BY STIMULATION OF THE NUCLEUS RAPHE DORSALIS. 125653 13-03
- DOSAGE**  
INFLUENCE OF SEX OF HOSPITALIZED SCHIZOPHRENICS ON THERAPEUTIC DOSAGE LEVELS OF NEUROLEPTICS. 079314 13-17  
COMPLICATIONS OF PSYCHOTROPIC MEDICATIONS IN HIGH DOSAGE. 098690 13-15  
LYSERGIC ACID DIETHYLAMIDE TARTRATE (LSD-25) DOSAGE LEVELS, GROUP DIFFERENCES, AND SOCIAL INTERACTION. 098888 13-12  
ASSESSMENT OF LOW DOSAGE HALOPERIDOL IN ANXIETY STATES. 100790 13-10  
ENHANCED DISSOLUTION RATES FOR A SERIES OF DRUGS AS A FUNCTION OF DOSAGE FORM DESIGN. 100829 13-17  
PSYCHOMOTOR STIMULANT SELF-ADMINISTRATION AS A FUNCTION OF DOSAGE PER INJECTION IN THE RHESUS MONKEY. 111146 13-04  
THE MANAGEMENT OF EXCITEMENT IN A GENERAL HOSPITAL PSYCHIATRIC WARD BY HIGH DOSAGE HALOPERIDOL. 115398 13-14  
CLINICAL AND QUANTITATIVE EEG CHANGES AT DIFFERENT DOSAGE LEVELS OF FLUPHENAZINE TREATMENT. 115401 13-08
- DOSAGES**  
EFFECTS OF CHRONIC TRIFLUOPERAZINE ADMINISTRATION IN MULTIPLE DOSAGES ON RAT OFFSPRING BEHAVIOR. 102824 13-04
- DOSE**  
PERSISTENCE OF DOSE RELATED BEHAVIOUR IN MICE. 093953 13-04  
THE SAFETY OF A SINGLE DAILY DOSE SCHEDULE FOR IMIPRAMINE. 099818 13-11  
PRELIMINARY COMMUNICATION: 1. DECLINING DOSE DRUG DESENSITIZATION FOR PHOBIA. 100736 13-10  
DOSE RESPONSE EFFECTS OF ETHANOL ON APPETITIVE BEHAVIORS. 101741 13-04  
DOSE RESPONSE ANALYSIS OF THE EFFECTS OF TETRAHYDROCANNABINOL IN MAN. 104362 13-12  
DOSE RESPONSE AND BIASED SET STUDY OF AN AMPHETAMINE AND A BARBITURATE. 104379 13-16  
THE INFLUENCE OF LOW LSD DOSE ADMINISTRATION DURING SLEEP IN RATS. 104429 13-04  
COMPARISON OF DOSE DEPENDENT DEPLETION OF SOME MONOAMINES IN RAT BRAINS BY MEANS OF RESERPINE AND OXYPERTINE. 126103 13-03
- DOSES**  
DOET (2,5 DIMETHOXY-4-ETHYLAMPHETAMINE), A NEW PSYCHOTROPIC DRUG: EFFECTS OF VARYING DOSES IN MAN. 071566 13-12  
EFFECT OF ANESTHETIC DOSES OF GAMMA-HYDROXYBUTYRATE ON SUBCORTICAL CONCENTRATION OF HOMOVANILIC ACID. 086813 13-03  
EFFECTS OF SMALL DOSES OF HALOPERIDOL ON TIMING BEHAVIOUR. 088640 13-04  
EFFECTS OF SINGLE 1/2 LD50 DOSES OF GB UPON DELAYED RESPONSE AND CONDITIONED AVOIDANCE RESPONSE TESTS. 094956 13-03  
BEHAVIORAL EFFECTS OF LOW DOSES OF DDT. 099850 13-04  
THE EFFECTS OF CHRONIC DOSES OF TRICYANOAMINOPROPENE ON WATER CONSUMPTION IN THE RAT. 105078 13-04  
THERAPEUTIC EFFECT OF FLUPHENAZINE IN VARIOUS DOSES AND FORMS. 105826 13-08  
PARADOXICAL EFFECTS OF LOW DOSES OF D-AMPHETAMINE IN RATS. 112315 13-04  
ADRENERGIC MECHANISMS IN HYPOLYCEMIC SHOCK IN RABBITS: II. DISORDERS OF ADRENERGIC RESPONSE COMPENSATING

## Psychopharmacology Abstracts

- HYPOLYCEMIA IN RABBITS TREATED WITH SMALL DOSES OF RESERPINE. 119648 13-03
- DOTHIPIIN**  
A DOUBLE-BLIND COMPARISON OF DOTHIPIIN AND AMITRIPTYLINE FOR THE TREATMENT OF DEPRESSION WITH ANXIETY. 104830 13-09
- DOUBLE**  
SODIUM AMYLOBARBITONE, THE PARTIAL REINFORCEMENT EXTINCTION EFFECT, AND THE FRUSTRATION EFFECT IN THE DOUBLE RUNWAY. 082859 13-04
- DOUBLE-BLIND**  
TREATING ANXIETY AND DEPRESSION IN THE ELDERLY: A DOUBLE-BLIND CROSSOVER EVALUATION OF TWO WIDELY USED TRANQUILIZERS. 079011 13-11  
DOUBLE-BLIND CLINICAL STUDY COMPARING DOXEPIIN AND IMIPRAMINE IN DEPRESSION. 086522 13-09  
DOUBLE-BLIND STUDY ON THE CORRELATIONS OF URINARY ELIMINATION OF CATECHOLAMINES AND THEIR METABOLITES (SUPPOSED TO COME THROUGH ADRENOCROME, NORADRENOCROME AND DOPACHROME) WITH CLINICAL STATE OF 50 PATIENTS UNDER DIFFERENT PSYCHOPHARMACOLOGIC DRUG. 087003 13-13  
A DOUBLE-BLIND COMPARISON OF MOLIDONE AND TRIFLUOPERAZINE IN THE TREATMENT OF ACUTE SCHIZOPHRENIA. 087033 13-08  
MEPROBAMATE THERAPY FOR THE MYOFASCIAL PAIN DYSFUNCTION (MPD) SYNDROME: A DOUBLE-BLIND EVALUATION. 089881 13-17  
HALOPERIDOL VERSUS THIORIDAZINE FOR HOSPITALIZED PSYCHOGERIATRIC PATIENTS: DOUBLE-BLIND STUDY. 096021 13-11  
CLINICAL INVESTIGATION OF DOXEPIIN IN DEPRESSED PATIENTS: PILOT OPEN STUDY, CONTROLLED DOUBLE-BLIND TRIAL VERSUS IMIPRAMINE, AND ALL-NIGHT POLYGRAPHIC STUDY. 099031 13-10  
RESULTS OF A DOUBLE-BLIND EXPERIMENT WITH HF-1954 (8-CHLORO-11-(4-METHYL-1-PIPERAZINYL) 5H DIBENZODIAZEPINE) COMPARED WITH LEVOMEPROMAZINE. 099032 13-08  
DOUBLE-BLIND COMPARATIVE STUDY OF DOXEPIIN AND MEDAZEPAM IN ADOLESCENTS. 100605 13-10  
A DOUBLE-BLIND CONTROLLED TRIAL OF THIOTHIXENE AND PERPHENAZINE IN CHRONIC SCHIZOPHRENICS SHOWN TO REQUIRE MAINTENANCE THERAPY. 100807 13-08  
SOME CURRENT THOUGHTS ON LITHIUM CARBONATE IN MANIC-DEPRESSIVE ILLNESS BASED ON A DOUBLE-BLIND COMPARISON WITH CHLORPROMAZINE. 103627 13-09  
EMOTION AND SKIN: A DOUBLE-BLIND EVALUATION OF PSYCHOTROPIC AGENTS. 103630 13-13  
A DOUBLE-BLIND COMPARISON OF DOTHIPIIN AND AMITRIPTYLINE FOR THE TREATMENT OF DEPRESSION WITH ANXIETY. 104830 13-09  
METIAPINE: A DOUBLE-BLIND EVALUATION IN CHRONIC SCHIZOPHRENIC PATIENTS. 117022 13-08  
DOUBLE-BLIND STUDY OF THE OREXIGENIC EFFECT OF A SEROTONIN INHIBITOR IN ANOREXIC CHILDREN. 125289 13-13
- DOVE**  
STIMULUS AND RESPONSE SPECIFICITY IN THE HABITUATION OF ANTIPREDATOR BEHAVIOUR IN THE RING DOVE (STREPTOPELIA RISSORIA). 100047 13-09
- DOWN**  
SCHIZOPHRENIA - KEEPING THE SHAKES DOWN. 102256 13-08
- DOWNS**  
5-HYDROXYTRYPTOPHAN (5-HTP) IN DOWNS SYNDROME. 086993 13-11
- DOXAPRAM**  
NIKETHAMIDE AND DOXAPRAM EFFECTS ON PENTAZOCINE AND MORPHINE INDUCED RESPIRATORY DEPRESSION. 105407 13-03
- DOXEPIIN**  
TREATMENT OF HOSPITALIZED ALCOHOLICS WITH DOXEPIIN AND DIAZEPAM: A CONTROLLED STUDY. 073606 13-11  
DOXEPIIN IN THE TREATMENT OF PSYCHONEUROTIC PATIENTS: A COMPARISON BETWEEN TWO CLINICAL SETTINGS. 077431 13-14

- A COMPARATIVE TRIAL OF DOXEPIN AND AMITRIPTYLINE IN DEPRESSIVE ILLNESS. 078156 13-09
- DOUBLE-BLIND CLINICAL STUDY COMPARING DOXEPIN AND IMIPRAMINE IN DEPRESSION. 086522 13-09
- STUDIES ON THE ANTIDEPRESSANT ACTION OF DOXEPIN (SINEQUAN). 087023 13-09
- A STUDY WITH SINEQUAN (DOXEPIN). 095157 13-09
- DOXEPIN: A REVIEW. 098915 13-07
- CLINICAL INVESTIGATION OF DOXEPIN IN DEPRESSED PATIENTS. PILOT OPEN STUDY, CONTROLLED DOUBLE-BLIND TRIAL VERSUS IMIPRAMINE, AND ALL-NIGHT POLYGRAPHIC STUDY. 099031 13-10
- DOXEPIN IN THE TREATMENT OF PSYCHONEUROTIC INPATIENTS. 100539 13-10
- LONG-TERM ADMINISTRATION OF DOXEPIN (SINEQUAN): CLINICAL AND LABORATORY SURVEY OF 40 PATIENTS. 102593 13-09
- DOXEPIN: EFFECTS ON TRANSPORT OF BIOGENIC AMINES IN MAN. 104571 13-13
- DOXEPINE**
- CLINICAL EVALUATION OF THE ANTIDEPRESSANT EFFECTS OF DOXEPINE. 093702 13-09
- DOUBLE-BLIND COMPARATIVE STUDY OF DOXEPINE AND MEDAZEPAM IN ADOLESCENTS. 100605 13-10
- DRAWINGS**
- THE EFFECT OF STIMULANT DRUGS ON HUMAN FIGURE DRAWINGS IN CHILDREN WITH MINIMAL BRAIN DYSFUNCTION. 125254 13-14
- DREAM**
- THE SEROTONIN CATECHOLAMINE - DREAM BICYCLE: A CLINICAL STUDY (UNPUBLISHED PAPER). 085951 13-13
- DREAMING**
- FENFLURAMINE AND DREAMING. 098772 13-15
- DREAMS**
- SLEEP, DRUGS, AND DREAMS. 106367 13-17
- DRINKING**
- EFFECT OF ATROPINE ON DRINKING INDUCED BY CARBACHOL, ANGIOTENSIN AND ISOPROTERENOL. 101966 13-04
- CONDITIONED DRINKING PRODUCED BY PROCAINE, NAEL, AND ANGIOTENSIN. 102540 13-04
- ANTICONSULSANT EFFECT OF TRIMETHADIONE IN MICE DURING CONTINUED TREATMENT VIA THE DRINKING WATER. 107945 13-03
- EFFECTS OF TERTIARY VS QUATERNARY SCOPOLAMINE ON WATER AND AIR DRINKING IN RATS. 123639 13-04
- DRIVE**
- THE EFFECT OF A THYMOLEPTIC DRUG UPON INHIBITION OF DRIVE IN ENDOGENOUS DEPRESSION: A QUANTITATIVE STATISTICAL INVESTIGATION. 087291 13-09
- DRIVING**
- ALCOHOL, THIORIDAZINE AND CHLORPROMAZINE EFFECTS ON SKILLS RELATED TO DRIVING BEHAVIOUR. 101615 13-14
- DROPERIDOL**
- SIMULTANEOUS CLINICAL USE OF TWO NEUROLEPTICS (DROPERIDOL AND FLUPENTHIXOL) IN PSYCHIATRIC THERAPY. 096309 13-08
- DRUG**
- PROBLEMS IN THE EVALUATION OF A NEW ANTIDEPRESSANT DRUG IN PRISON VOLUNTEERS. 070714 13-13
- DOET (2,5 DIMETHOXY-4-ETHYLAMPHETAMINE), A NEW PSYCHOTROPIC DRUG: EFFECTS OF VARYING DOSES IN MAN. 071566 13-12
- DRUG ALLERGY. 074239 13-15
- PRIMARY LEVELS OF UNDERREPORTING PSYCHOTROPIC DRUG USE. 078803 13-17
- A BRIEF RATING SCALE FOR ANTIDEPRESSANT DRUG TRIALS. 078939 13-06
- DOM (STP), A NEW HALLUCINOGENIC DRUG: SPECIFIC PERCEPTUAL CHANGES. 078958 13-12
- PSYCHIATRIC TREATMENT FOR GERIATRIC PATIENTS: PUB OR DRUG? 079780 13-14
- THE USE OF MEGAVITAMIN THERAPY IN REGULATING SEVERE BEHAVIOR DISORDERS, DRUG ABUSES AND FRANK PSYCHOSIS. 082735 13-17
- DRUG DEVELOPMENT - 1970. 082867 13-17
- DRUG ADVERTISING AND PERCEPTION OF MENTAL ILLNESS. 085597 13-17
- PLASMA DRUG CONCENTRATION AND CLINICAL EFFECT. 086529 13-13
- DRUG PLASMA LEVELS AND CLINICAL EFFECT. 086532 13-16
- USE OF HEPATIC MICROSOMES IN THE PREPARATION OF MODEL DRUG METABOLITES. 086700 13-03
- RAT DRUG ADDICTS. 086825 13-04
- DOUBLE-BLIND STUDY ON THE CORRELATIONS OF URINARY ELIMINATION OF CATECHOLAMINES AND THEIR METABOLITES (SUPPOSED TO COME THROUGH ADRENOCROME, NORADRENOCROME AND DOPACHROME) WITH CLINICAL STATE OF 50 PATIENTS UNDER DIFFERENT PSYCHOPHARMACOLOGIC DRUG. 087003 13-13
- THE EFFECT OF A THYMOLEPTIC DRUG UPON INHIBITION OF DRIVE IN ENDOGENOUS DEPRESSION: A QUANTITATIVE STATISTICAL INVESTIGATION. 087291 13-09
- QUANTITATIVE EEG ANALYSIS OF SINGLE-DOSE EFFECT RELATIONSHIPS IN NORMAL VOLUNTEERS OF PACINOX (CAPURIDE), A NEW ANTIANXIETY DRUG. 087487 13-10
- THERAPEUTIC POSSIBILITIES OF PSYCHOPHARMACOLOGICAL DRUG TRIALS. 087669 13-16
- MEPROBAMATE: A STUDY OF IRRATIONAL DRUG USE. 088142 13-17
- LITHIUM CARBONATE AND ISOCARBOXAZID - AN EFFECTIVE DRUG APPROACH IN SEVERE DEPRESSIONS. 088144 13-07
- PREDICTION OF DRUG EFFECT IN PERSONALITY DISORDERS. 088295 13-17
- RELATION OF HYPERMAGNEAEMIA TO ACTIVITY AND NEUROLEPTIC DRUG THERAPY IN SCHIZOPHRENIC STATES. 088729 13-13
- RESIN HEMOPERFUSION: A NEW TREATMENT FOR ACUTE DRUG INTOXICATION. 089039 13-16
- DRUG TREATMENT OF HOSPITALIZED PSYCHIATRIC PATIENTS. 089849 13-11
- BEHAVIORAL TOLERANCE OF SQUIRREL MONKEYS TO HYPOXIA: A MODEL FOR EVALUATING DRUG THERAPY. 091102 13-06
- PROBLEMS OF A DRUG TRIAL (PEMOLINE) ON GERIATRIC PATIENTS. 093774 13-11
- DRUG THERAPY IN ALCOHOLISM. 093791 13-11
- RATIONALITY IN THE ASSESSMENT OF PSYCHOTROPIC DRUG EFFICACY. 095533 13-17
- METHODOLOGY FOR DRUG EVALUATION IN AFFECTIVE DISORDERS: DEPRESSION. AGENTS. 095537 13-09
- METHODOLOGY FOR DRUG EVALUATION IN AFFECTIVE DISORDERS: MANIA. AGENTS. 095538 13-09
- METHODS FOR EVALUATING DRUG EFFICACY IN GERIATRIC PSYCHIATRIC DISORDERS. 095540 13-11
- APPROACHES TO MEASURING THE EFFICACY OF DRUG TREATMENT OF PERSONALITY DISORDERS: AN ANALYSIS AND PROGRAM. 095542 13-10
- SUGGESTIONS FOR DRUG STUDIES IN ALCOHOLISM. 095543 13-11
- EEG AND BEHAVIORAL EFFECTS OF DRUG THERAPY IN CHILDREN. 095924 13-14
- DRUG ANTAGONISM. 098143 13-11
- REPORT ON THE USE OF A NEW GERIATRIC DRUG IN A HOME FOR THE AGED AND NURSING HOME. 098451 13-11
- DRUG MONITORING IN A PSYCHIATRIC UNIT. 099312 13-16
- METABOLIC ASPECTS OF AMINO ACID LOADING AND DRUG ADMINISTRATION IN ANIMAL STUDIES. AFFECTIVE ILLNESSES. 099335 13-03
- ELECTROENCEPHALOGRAPHIC VARIATIONS FOLLOWING ANTIPSYCHOTIC DRUG TREATMENT. 100204 13-15
- IMPAIRMENT OF DRUG METABOLISM BY DISULFIRAM IN MAN. 100419 13-13

## Subject Index

- PRELIMINARY COMMUNICATION. 1. DECLINING DOSE DRUG  
DESENSITIZATION FOR PHOBAS. 100736 13-10
- PRINCIPLES OF DRUG THERAPY IN CHILD PSYCHIATRY WITH SPECIAL  
REFERENCE TO STIMULANT DRUGS. 101214 13-17
- AN EVALUATION OF TOFENACINE (ELAMOL), A NEW DRUG FOR THE  
TREATMENT OF DEPRESSION. 102349 13-07
- BLOCKADE OF NORADRENALINE UPTAKE BY 34276-BA, A NEW  
ANTIDEPRESSANT DRUG. 102696 13-03
- MODERN DRUG TREATMENT AND POTENTIAL HAZARDS TO HEALTH. 103047 13-17
- COMPARISON OF MAJOR DRUG THERAPIES FOR ALLEVIATION OF  
ANXIETY AND DEPRESSION. 103912 13-14
- PROLONGED TREATMENT WITH MORPHINE IN RATS: DRUG/BEHAVIOR  
INTERACTION UNDER AVERSIVE CONTROL. 103954 13-04
- DRUG EFFECTS ON DISTRESS-EVOKED BEHAVIOR IN MICE:  
METHODOLOGY AND DRUG CLASS COMPARISONS. 104137 13-04
- DRUG, DOCTOR WARMTH, AND CLINIC SETTING IN THE SYMPTOMATIC  
RESPONSE TO MINOR TRANQUILIZERS. 104143 13-10
- CROSS-GENERATIONAL EFFECTS RESULTING FROM AN EARLY MATERNAL  
CHRONIC DRUG EXPERIENCE. 104173 13-04
- CLINICAL POSSIBILITIES OF THE EVALUATION OF PHARMACOTHERAPY,  
INVESTIGATED BY TESTING THE EFFECTIVENESS OF THE NEUROLEPTIC  
DRUG PIMOZIDE. 104226 13-07
- THE EFFECT OF STRYCHNINE ADMINISTRATION DURING DEVELOPMENT  
ON ADULT MAZE LEARNING IN THE RAT II: DRUG ADMINISTRATION  
FROM DAY 51 TO 70. 104377 13-04
- DRUG INTERFERENCE WITH MEASUREMENT OF ADRENAL HORMONES IN  
URINE: ANALGESICS AND TRANQUILIZER SEDATIVES. 104427 13-13
- INDUCTION OF BIZARRE BEHAVIOUR IN RATS BY P-  
CHLOROAMPHETAMINE, A SEROTONIN DEPLETOR, AFTER REPEATED  
DRUG ADMINISTRATION. 104793 13-04
- ADVERSE REACTIONS AND THE SPECIFICITY OF ANTIDEPRESSANT DRUG  
EFFECTS. 105277 13-15
- CLINICAL AND PHARMACOLOGICAL INVESTIGATION OF A NEW  
PSYCHOTROPIC DRUG SULPIRIDE (DOGMATIL). 105825 13-07
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC  
DRUG OXYPROTHEPIN: II. INFLUENCE ON BEHAVIOR IN RATS. 105838 13-04
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC  
DRUG OXYPROTHEPIN: I. THE ACTION ON THE CENTRAL NERVOUS  
SYSTEM IN RODENT 105839 13-02
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC  
DRUG OXYPROTHEPIN: III. ELECTROENCEPHALOGRAPHIC STUDY IN  
RABBITS. 105840 13-03
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC  
DRUG OXYPROTHEPIN: IV. ANTIANDRENERGIC ACTION AND INFLUENCE  
ON BRAIN MONOAMINES. 105841 13-03
- INTERRELATIONS OF FOLIC ACID AND VITAMIN-B12 IN DRUG TREATED  
EPILEPTIC PATIENTS. 106063 13-11
- ADMINISTRATION OF TWO OF MORE RELATED DRUGS TO INVESTIGATE  
THE EFFECT OF MOLECULAR MODIFICATION AND FORMULATION ON  
DRUG ABSORPTION, METABOLISM AND EXCRETION. 106908 13-13
- EXPERIMENTS WITH UCB-6215, A DRUG WHICH ENHANCES ACQUISITION  
IN RATS: ITS EFFECTS COMPARED WITH THOSE OF  
METHAMPHETAMINE. 107159 13-04
- THE DRUG HISTORY OF PSYCHIATRIC ADMISSIONS. 107597 13-17
- INTERACTIONS OF DELTA9-TETRAHYDROCANNABINOL WITH THE HEPATIC  
MICROSOMAL DRUG METABOLIZING SYSTEM. 107865 13-03
- PART 1. IMPROVEMENT CRITERIA IN DRUG TRIALS WITH NEUROTIC  
PATIENTS. 108484 13-10
- DRUG EFFECTS AND LEARNING AND MEMORY PROCESSES. 108520 13-13
- BIOCHEMICAL MECHANISMS OF TRANSFERABLE DRUG RESISTANCE. 108522 13-03

## Psychopharmacology Abstracts

- METABOLISM OF THE PHENOTHIAZINE DRUG PERAZINE BY LIVER AND  
LUNG MICROSOMES FROM VARIOUS SPECIES. 108718 13-03
- SERUM FOLIC ACID AND PHENYTOIN LEVELS IN PERMANENTLY  
HOSPITALIZED EPILEPTIC PATIENTS RECEIVING ANTICONVULSANT  
DRUG THERAPY. 108727 13-15
- DRUG TREATMENT IN SCHIZOPHRENIA. 108835 13-08
- ACCIDENTAL CONDITIONING WITH CHRONIC METHAMPHETAMINE  
INTOXICATION: IMPLICATIONS FOR A THEORY OF DRUG  
HABITUATION. 110187 13-04
- INHIBITION OF DRUG METABOLISM BY LEVODOPA IN COMBINATION  
WITH A DOPA-DECARBOXYLASE INHIBITOR. 111618 13-13
- PROGRESS IN DRUG RESEARCH. 111877 13-17
- SINGLE SUBJECT DESIGNS FOR ASSESSMENT OF PSYCHOTROPIC DRUG  
EFFECTS IN CHILDREN. 112085 13-14
- A CONTROLLED COMPARISON OF DRUG EFFECTS ON ESCAPE FROM  
CONDITIONED AVERSIVE STIMULATION (ANXIETY) AND FROM  
CONTINUOUS SHOCK. 112313 13-04
- DRUG ADMINISTRATION SCHEDULES. 115619 13-13
- PHARMACOLOGY OF NARCOTICS AND ANTAGONISTS AS RELATED TO  
DRUG ABUSE. 116814 13-13
- EFFECTS OF DRUG STATE CHANGES UPON TWO-WAY SHUTTLE  
AVOIDANCE RESPONSES IN RATS, TREATED WITH CHLORDIAZEPOXIDE  
OR PLACEBO. 117747 13-04
- THE ANTINOCICEPTIVE ACTION OF A NOVEL ANXIOLYTIC AND  
TENSIOLYTIC DRUG (BENZOCETAMINE) IN TWO DIFFERENT WRITHING  
SYNDROMES. 118200 13-02
- EFFECT OF REDUCED BAROMETRIC PRESSURE ON DRUG ACTION AND  
METABOLISM IN MICE. 118568 13-03
- DAILY RHYTHMIC VARIATION AND LIVER DRUG METABOLISM IN RATS. 120467 13-03
- EXPERIENCE WITH A NEW PSYCHOTROPIC DRUG, OXAZOLAM, IN  
TREATMENT OF ANXIETY NEUROSES. 123050 13-10
- ACCUMULATION OF METABOLITES DURING CHRONIC APPLICATION OF  
THE NEUROLEPTIC DRUG PERAZINE TO RATS. 123268 13-03
- THE BEHAVIORAL EFFECTS OF A NEW PSYCHOACTIVE DRUG (D-CARBINE)  
ON A PASSIVE AVOIDANCE RESPONSE AND LOCOMOTION AND ITS  
INTERACTION WITH AMPHETAMINE. 124104 13-02
- EFFECTS OF DRUG STATE CHANGES UPON BLACK WHITE  
DISCRIMINATION LEARNING IN RATS. 125253 13-04
- NEAR FATAL REACTION TO INGESTION OF THE HALLUCINOGENIC DRUG  
MDA. 125427 13-15
- DRUG-INDUCED**
- THE REVERSAL OF ANTICHOLINERGIC DRUG-INDUCED DELIRIUM AND  
COMA WITH PHYSOSTIGMINE. 079833 13-14
- DELUSION OF PREGNANCY IN A GIRL WITH DRUG-INDUCED LACTATION. 085705 13-15
- THE ANTIPARKINSON PROPERTIES OF AMANTADINE IN DRUG-INDUCED  
PARKINSONISM. 087031 13-13
- TROXONIUM TASYLATE IN DRUG-INDUCED PARKINSONISM: A  
CONTROLLED COMPARATIVE STUDY. 100260 13-07
- CHANGES IN FREE FATTY ACIDS OF BRAIN BY DRUG-INDUCED  
CONVULSIONS, ELECTROSHOCK AND ANESTHESIA. 100868 13-03
- TOXIC DRUG-INDUCED PSYCHOSES. 101309 13-15
- EFFECTS OF CHRONIC ADMINISTRATION OF NICOTINE ON DRUG-INDUCED  
HYPNOSIS IN MICE. 102188 13-04
- DRUG-INDUCED SUPPRESSION OF CONDITIONED HYPERTHERMIC AND  
CONDITIONED AVOIDANCE BEHAVIOR RESPONSE IN RATS. 104144 13-04
- DRUG-INDUCED DYSKINESIA IN MONKEYS: A PHARMACOLOGIC MODEL  
EMPLOYING 6-HYDROXYDOPAMINE. (UNPUBLISHED PAPER). 105426 13-03
- DRUG-INDUCED DISTORTION OF VISUAL SPACE. 108976 13-14

- THE EFFECTS OF DRUG-INDUCED INCREASES IN RIBONUCLEIC ACIDS AND PROTEINS ON MEMORY. (PH.D. DISSERTATION). 109503 13-04
- DRUGS**
- DRUGS AND TREATMENT OF DEPRESSION AND MANIA. 074202 13-10
- DRUGS IN SCHIZOPHRENIA. 077701 13-08
- EFFECTS OF DRUGS ON DEEP BRAIN CENTERS. 077922 13-03
- EFFECT OF DRUGS ON AMINES IN THE CNS. 077923 13-03
- EFFECTS OF SOME PSYCHOACTIVE DRUGS ON CONDITIONED AVOIDANCE RESPONSE IN AGGRESSIVE MICE. 077992 13-04
- PILLS FOR LEARNING: DISPUTE FAILS TO HALT USE OF DRUGS TO CALM HYPERACTIVE CHILDREN. 078100 13-17
- AGREEMENT ON SPECIFICITY OF PSYCHOTROPIC DRUGS. 078130 13-16
- DIALYSIS OF DRUGS AGAINST ACTIVATED CHARCOAL. 078162 13-16
- AN EXAMINATION OF THE EFFECT OF CENTRAL NERVOUS SYSTEM STIMULANT AND ANTIDEPRESSANT DRUGS ON OPEN-FIELD PERFORMANCE IN RATS. 078937 13-04
- THE PHARMACOLOGIST - CLINICAL INVESTIGATOR DIALOGUE IN EVALUATION OF NEW PSYCHOTHERAPEUTIC DRUGS. 078956 13-07
- DRUGS ALTER WEB-BUILDING OF SPIDERS: A REVIEW AND EVALUATION. 079096 13-04
- EFFECTIVENESS OF ANTIDEPRESSANT DRUGS: A TRIPLE-BLIND STUDY COMPARING IMIPRAMINE, DESIPRAMINE, AND PLACEBO. 079289 13-10
- LONG-TERM TREATMENT WITH NEUROLEPTIC DRUGS AND EYE OPACITIES. 079832 13-14
- COMMON DRUGS CAN CAUSE PSYCHIATRIC ILLNESS. 082031 13-15
- EFFECTS OF SOME PSYCHOTROPIC DRUGS ON DOPAMINE SYNTHESIS IN THE RAT STRIATUM. 082783 13-03
- EFFECT OF AMMONIUM CHLORIDE ON THE POTENTIATION OF AMPHETAMINE BY PSYCHOTROPIC DRUGS IN THE RAT. 082793 13-03
- MODIFICATION BY PSYCHOTROPIC DRUGS OF THE CYCLIC ADENOSINE MONOPHOSPHATE RESPONSE TO NOREPINEPHRINE IN RAT BRAIN. 082864 13-03
- EFFECT OF PSYCHOTROPIC DRUGS ON TRYPTOPHAN CONCENTRATION IN THE RAT BRAIN. 086107 13-03
- BEHAVIOR AND HOW IT IS AFFECTED BY DRUGS IS BEING INVESTIGATED BY THE NORTH-CAROLINA DEPARTMENT OF MENTAL HEALTH BY USING SPIDERS AS LABORATORY ANIMALS. 086126 13-04
- AGRANULOCYTOSIS, LEUKOPENIA, AND PSYCHOTROPIC DRUGS. 086417 13-13
- PLASMA LEVELS OF PSYCHOTROPIC DRUGS. 086530 13-16
- EFFECTS OF PSYCHOACTIVE DRUGS ON CONFLICT AVOIDANCE BEHAVIOR IN HUMAN SUBJECTS. 086572 13-14
- DISSOCIATIVE EFFECTS OF DRUGS ON THE EXTINCTION OF CONDITIONED SUPPRESSION IN THE RAT. 086772 13-04
- BRAIN LEVELS OF IMIPRAMINE AND DESIPRAMINE AFTER COMBINED TREATMENT WITH THESE DRUGS IN RATS. 086812 13-03
- THE EFFECT OF DRUGS UPON THE UPTAKE OF 5-HYDROXYTRYPTAMINE AND METARAMINOL BY HUMAN PLATELETS. 087116 13-03
- ROLE OF CEREBRAL DOPAMINE IN THE ACTION OF PSYCHOTROPIC DRUGS. 087361 13-04
- MECHANISM OF ACTION OF ANTIPSYCHOTIC DRUGS ON BIOLOGICAL ELECTRON TRANSPORT. 087365 13-03
- ANALGESICS AND PSYCHOTROPIC DRUGS IN THE MANAGEMENT OF DISEASE OF THE GUT. 087867 13-17
- PERSISTENCE OF NEUROLOGICAL SYMPTOMS DUE TO NEUROLEPTIC DRUGS. 088145 13-15
- DRUGS AND STIMULUS BOUND ATTACK. 088672 13-04
- A PROPOSAL FOR A CONSISTENT NIGHT THERAPY FOR THE MENTAL PATIENT; CONJOINTLY, A CAUSISTIC CONTRIBUTION TO A DAY NIGHT THERAPY FOR DEPRESSIONS WITH PSYCHOTROPIC DRUGS. 089067 13-09
- ALCOHOLISM, ALCOHOL, AND DRUGS. 089191 13-13
- THE USE OF PSYCHOPHARMACOLOGICAL DRUGS IN THE AGED. 089319 13-17
- UNWANTED EFFECTS OF ANTICONVULSANT DRUGS. 090761 13-15
- DRUGS OF DEPENDENCE THOUGHT NOT OF ABUSE; FENFLURAMINE AND IMIPRAMINE. 092160 13-12
- CHROMOSOMAL ABERRATIONS IN USERS OF PSYCHOACTIVE DRUGS. 092717 13-14
- ANTICONVULSANT DRUGS, FOLIC ACID METABOLISM, FIT FREQUENCY AND PSYCHIATRIC ILLNESS. 093822 13-15
- PHYSICIAN CHARACTERISTICS AND ATTITUDES TOWARD LEGITIMATE USE OF PSYCHOTHERAPEUTIC DRUGS. 093860 13-17
- THE USE OF DRUGS IN THE SEARCH FOR A HUMAN APHRODISIAC EXPERIENCE. 094689 13-17
- THE THERAPEUTIC PROCESS: THE USE OF DRUGS. 094703 13-17
- DRUGS AND THEIR ABUSE: NO. 1 - THE ABUSE OF ANTIDEPRESSANT DRUGS. 095450 13-09
- LEARNING DISORDERS, HYPERKINESIS, AND THE USE OF DRUGS IN CHILDREN. 095459 13-14
- LONG-ACTING ANTIPARKINSONIAN DRUGS: I. PILOT STUDY OF BENZETIMIDE (342 CASES). 096113 13-07
- RELEARNING AT DIFFERENT TIMES AFTER TRAINING AS AFFECTED BY CENTRALLY AND PERIPHERALLY ACTING CHOLINERGIC DRUGS IN THE MOUSE. 097739 13-04
- A CLINICAL STUDY OF OXAFLOMAZINE: ITS PLACE AMONG NEUROLEPTIC DRUGS. 097797 13-08
- MODIFICATION BY TWO BETA-ADRENERGIC BLOCKING DRUGS OF THE EFFECTS OF METHAMPHETAMINE ON BEHAVIOR AND BRAIN METABOLISM OF MICE. 098207 13-04
- THE INFLUENCE OF PHENELZINE ON THE TOXICITY OF CHOLINERGIC DRUGS MODIFIED BY RESERPINE. 098294 13-05
- DETECTION OF SOME PSYCHOTHERAPEUTIC DRUGS AND THEIR METABOLITES IN URINE. 098636 13-13
- THE EFFECT OF DRUGS ON HYPERACTIVITY IN CHILDREN WITH SOME OBSERVATIONS OF CHANGES IN MINERAL METABOLISM. 098894 13-14
- ANXIETY, DEPRESSION AND PSYCHOTROPIC DRUGS. 098916 13-14
- INFLUENCE OF PERINATAL DRUGS ON THE BEHAVIOR OF THE NEONATE. 099518 13-15
- CATECHOL-O-METHYLTRANSFERASE AND MONOAMINE OXIDASE ACTIVITIES IN RAT SUBMAXILLARY GLAND: EFFECTS OF LIGATION, SYMPHACTECTOMY AND SOME DRUGS. 099645 13-03
- A SURVEY OF SELECTED DRUGS ON BEHAVIOR PERFORMANCE IN ETHANOL TREATED RATS. 099649 13-04
- THE EFFECT OF SOME BETA-ADRENERGIC BLOCKING AND OTHER DRUGS ON BRAIN LACTATE LEVELS FOLLOWING ELECTROSHOCK. 100218 13-03
- THE EFFECTS OF CHRONIC ADMINISTRATION OF SOME CHOLINERGIC AND ADRENERGIC DRUGS ON THE ACTIVITY OF CHOLINE ACETYLTRANSFERASE IN THE OPTIC LOBES OF THE CHICK BRAIN. 100219 13-03
- PSYCHIATRIC DRUGS AND TRENDS. 100621 13-11
- FOLIC ACID CONCENTRATIONS IN CEREBROSPINAL FLUID IN RELATION TO ANTICONVULSANT DRUGS AND CEREBRAL ATROPHY. 100809 13-11
- ENHANCED DISSOLUTION RATES FOR A SERIES OF DRUGS AS A FUNCTION OF DOSAGE FORM DESIGN. 100829 13-17
- SEX DIFFERENCES IN THE USE OF MOOD MODIFYING DRUGS: AN EXPLANATORY MODEL. 100851 13-14
- PRINCIPLES OF DRUG THERAPY IN CHILD PSYCHIATRY WITH SPECIAL REFERENCE TO STIMULANT DRUGS. 101214 13-17

## Subject Index

- DIFFERENTIATION OF TWO GENETICALLY SPECIFIC TYPES OF DEPRESSION BY THE RESPONSE TO ANTIDEPRESSANT DRUGS. 101434 13-10
- DIAZEPAM AND NEUROMUSCULAR BLOCKING DRUGS. 101525 13-03
- METABOLISM OF PROPRANOLOL BY RAT LIVER MICROSOMES AND ITS INHIBITION BY PHENOTHIAZINE AND TRICYCLIC ANTIDEPRESSANT DRUGS. 101703 13-03
- RAPID DETECTION OF CERTAIN BASIC DRUGS IN URINE. 101987 13-16
- ASSOCIATION OF CNS ACTIVE DRUGS WITH 9-ETHYLADENINE. 102101 13-17
- THE INFLUENCE OF NEUROLEPTIC AND THYMOLEPTIC DRUGS ON STEREOTYPES INDUCED BY AMPHETAMINE AND APOMORPHINE. 102186 13-04
- DRUGS AND THE FETAL HEART RATE. 102288 13-13
- DRUGS, PHYSICIANS AND THE MEDICAL MODEL. 102448 13-17
- USE OF ANTIEPILEPTIC MEDICATION IN TREATING FLASHBACKS FROM HALLUCINOGENIC DRUGS. 102589 13-17
- PSYCHOACTIVE DRUGS: A USAGE GUIDE. 102596 13-17
- TECHNIQUES USED TO ASSESS THE EFFICACY OF PSYCHOTROPIC DRUGS: A CRITICAL REVIEW. 102937 13-16
- PSYCHOTHERAPY AND ATARAXIC DRUGS. 103237 13-17
- DRUGS, DRY MOUTH, AND DENTAL DISEASE. 103633 13-15
- ACTION OF PICRIC ACID ON THE EFFECTS OF SOME DRUGS ACTING ON THE CENTRAL NERVOUS SYSTEM, WITH SPECIAL REFERENCE TO OPIOIDS. 103655 13-03
- DIFFERENTIAL ACTIVITY OF SOME PSYCHOTROPIC DRUGS AS A FUNCTION OF EMOTIONAL LEVEL IN ANIMALS. 103952 13-04
- COMPARATIVE EFFECTS OF TEN ANORECTIC DRUGS ON SLEEP WAKEFULNESS PATTERNS IN CATS. 104174 13-04
- ONCE MORE - ON THE EXTRAORDINARY SIDE-EFFECTS OF DRUGS. 104364 13-16
- CORRELATION BETWEEN THE EXPERIMENTAL DATA FROM ANIMAL STUDIES AND THERAPEUTICAL EFFECTS OF ANTIDEPRESSANT DRUGS. 104435 13-09
- DEVELOPMENT OF MORPHINE DEPENDENCE IN RATS: LACK OF EFFECT OF PREVIOUS INGESTION OF OTHER DRUGS. 104436 13-04
- THE EFFECT OF DRUGS ON STEREOTYPED AND NONSTEREOTYPED OPERANT BEHAVIORS IN RETARDATES. 104572 13-14
- THE EFFECT OF SOME HALLUCINOGENIC AND OTHER DRUGS ON THE TEMPERATURE OF RESERPINIZED MICE. 104573 13-04
- THE CRITICAL FLICKER FUSION DURING THE ACTION OF DIFFERENT DRUGS: I. COFFEE AND MEPROBAMATE (INCLUDING A FULL DESCRIPTION OF THE METHOD). 104789 13-13
- EFFECTS OF SOME ANTICHOLINERGIC DRUGS ON WATER MAZE LEARNED BEHAVIOUR IN MICE. 104794 13-04
- THE EFFECT OF DRUGS INFLUENCING AMINE SYNTHESIS ON THE ANALGESIC ACTION OF TREMORINE. 104804 13-03
- THE INFLUENCE OF SOME SELECTED PSYCHOACTIVE DRUGS ON THE SPONTANEOUS CONTRACTILE ACTIVITY OF THE ISOLATED MURINE PORTAL VEIN. 104964 13-03
- THE EFFECTS OF VARIOUS ANTIDEPRESSANT DRUGS UPON THE TETRABENAZINE SUPPRESSED CONDITIONED AVOIDANCE RESPONSE IN RATS. 105013 13-04
- ON THE REACTION OF FERTILIZED ECHINODERM EGGS TO NEUROPHARMACOLOGICAL DRUGS. 105726 13-03
- TO THE ANTIDEPRESSIVE PROPERTIES OF LITHIUM AND ITS PLACE IN THE GROUP OF ANTIDEPRESSIVE DRUGS. 105832 13-09
- RELATIONSHIP BETWEEN THE THERAPEUTIC EFFECT AND SIDE-EFFECTS IN THE TREATMENT WITH ANTIDEPRESSIVE DRUGS. 105925 13-09
- ACUTE EFFECT OF CHLORPROTHIXENE (5MG), CAFFEINE (200MG) AND THE COMBINATION OF BOTH DRUGS ON VERBAL ASSOCIATIONS. 105997 13-14

## Psychopharmacology Abstracts

- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: CHANGES IN THE DIURNAL RHYTHM AND PSYCHIATRIC MENTAL STATUS ON WITHDRAWAL OF DRUGS. 106050 13-08
- NEURO AND PSYCHOTROPIC DRUGS IN PRESCRIPTIONS OF PHYSICIANS IN THE DISTRICT PRAGUE 6. 106098 13-17
- SLEEP, DRUGS, AND DREAMS. 106367 13-17
- A POSSIBLE SYNAPTIC MECHANISM UNDERLYING THE SIMILAR BEHAVIOURAL EFFECTS OF ADRENALINE-LIKE AND ACETYLCHOLINE-LIKE DRUGS. 106846 13-13
- ADMINISTRATION OF TWO OF MORE RELATED DRUGS TO INVESTIGATE THE EFFECT OF MOLECULAR MODIFICATION AND FORMULATION ON DRUG ABSORPTION, METABOLISM AND EXCRETION. 106908 13-13
- THE CENTRALLY INDUCED FALL IN BLOOD PRESSURE AFTER THE INFUSION OF AMPHETAMINE AND RELATED DRUGS INTO THE VERTEBRAL ARTERY OF THE CAT. 106911 13-03
- PSYCHIATRIC COMPLICATIONS OF MEDICAL DRUGS. 107546 13-15
- DRUGS AND SLEEP. 107660 13-14
- THE EFFECT OF IMIPRAMINE AND SELECTED DRUGS ON ATTACK ELICITED BY HYPOTHALAMIC STIMULATION IN THE CAT. 107960 13-04
- THE EFFECT OF IMIPRAMINE-LIKE DRUGS AND ANTIHISTAMINE DRUGS ON UPTAKE MECHANISMS IN THE CENTRAL NORADRENALINE AND 5-HYDROXYTRYPTAMINE NEURONS. 107961 13-03
- THE USE OF PSYCHOTHERAPEUTIC DRUGS BY MIDDLE-AGED WOMEN. 108270 13-17
- INDICATIONS FOR TRICYCLIC ANTIDEPRESSANT DRUGS. 108696 13-09
- EFFECTS OF SOME SYMPATHOMIMETIC DRUGS AND THEIR ANTAGONIST ON AFTERDISCHARGES ELICITED IN CHRONICALLY ISOLATED SLABS OF CEREBRAL CORTEX. 108793 13-03
- COMBINED TREATMENT WITH ECT AND ANTIPSYCHOTIC DRUGS IN SCHIZOPHRENIA. 108959 13-08
- SOME LESS FAMILIAR DRUGS OF ABUSE. 109014 13-13
- SEDATIVE DRUGS IN RESPIRATORY FAILURE. 110043 13-15
- ACQUISITION OF CONDITIONED AVOIDANCE RESPONSE IN RATS UNDER THE INFLUENCE OF ADDICTING DRUGS. 110182 13-04
- EVALUATION OF PSYCHOTROPIC DRUGS IN GENERAL PRACTICE. 111660 13-14
- PSYCHOTROPIC DRUGS OF PROLONGED EFFECT IN REHABILITATION AND READAPTATION OF SCHIZOPHRENIC PATIENTS. 111738 13-08
- EFFECT OF ANESTHETIC DRUGS ON TIME PRODUCTION AND ALPHA RHYTHM. 111839 13-14
- PSYCHEDELICS: THE USES AND IMPLICATIONS OF HALLUCINOGENIC DRUGS. 111962 13-12
- EEG FREQUENCY ANALYSIS IN THE TREATMENT WITH SOME ANTIDEPRESSANT DRUGS: (IMIPRAMINE, AMITRIPTYLINE, DIBENZEPINE, DIMETHACRINE). 112289 13-09
- MUTAGENIC ACTIVITY OF PHENOTHIAZINE AND OTHER DRUGS. 113434 13-03
- EFFECT OF NEUROTROPIC DRUGS ON CORTICAL EVOKED POTENTIALS. 113480 13-03
- A SIMPLE AND SPECIFIC SCREEN FOR BENZODIAZEPINE LIKE DRUGS. 114433 13-06
- THE PSYCHODYNAMIC IMPLICATIONS OF THE PHYSIOLOGICAL STUDIES ON PSYCHOMIMETIC DRUGS. 115196 13-17
- DRUGS IN BEHAVIOR THERAPY. 115611 13-11
- DRUGS IN THE MANAGEMENT OF ANXIETY. 115620 13-10
- DRUGS IN PSYCHIATRY. 115887 13-17
- A SEARCH FOR UNCORRELATED THIN LAYER CHROMATOGRAPHIC SYSTEMS FOR THE IDENTIFICATION OF BASIC DRUGS. 115897 13-06
- THE CHROMATOGRAPHIC SEPARATION OF MIXTURES OF BENZODIAZEPINE DRUGS. 115898 13-08

- QUANTITATIVE PHARMACO-ELECTROENCEPHALOGRAPHY IN EARLY EVALUATION OF PSYCHOTROPIC DRUGS. 118968 13-16
- PHARMACOLOGICAL INTERACTION OF LORAZEPAM WITH THIOPENTONE SODIUM AND SKELETAL NEUROMUSCULAR BLOCKING DRUGS. 120410 13-03
- EFFECT OF DRUGS USED IN STATUS-EPILEPTICUS ON THE POTASSIUM FLUXES OF CEREBROSPINAL FLUID IN THE CONSCIOUS DOG. 120412 13-03
- METHODOLOGICAL DIFFICULTIES OF EVALUATING PSYCHOTROPIC DRUGS. 122945 13-17
- METHYLPHENIDATE ANTAGONISM IN MICE AS A RAPID SCREENING TEST FOR NEUROLEPTIC DRUGS. 123275 13-04
- THE INTERFERENCE OF TRICYCLIC PSYCHOACTIVE DRUGS ON THE UPTAKE OF BIOGENIC AMINES BY ISOLATED MAST CELLS. 123282 13-03
- UPTAKE AND DISTRIBUTION OF DRUGS IN THE FETUS. 123290 13-03
- A METHOD FOR STUDYING THE INFLUENCES OF DRUGS ON LEARNING FOR FOOD REWARDS IN RATS. 125249 13-06
- THE EFFECT OF STIMULANT DRUGS ON HUMAN FIGURE DRAWINGS IN CHILDREN WITH MINIMAL BRAIN DYSFUNCTION. 125254 13-14
- MECHANISM OF ACTION OF PSYCHOTOMIMETIC DRUGS IN THE BRAIN STEM. 125593 13-13
- EFFECTS ON THE AMYGDALO-HIPPOCAMPAL EVOKED POTENTIAL IN THE CAT OF FOUR BENZODIAZEPINES AND SOME OTHER PSYCHOTROPIC DRUGS. 125960 13-03
- PSYCHOTROPIC DRUGS IN THE YEAR 2000. 126181 13-17
- DRY**  
DRUGS, DRY MOUTH, AND DENTAL DISEASE. 103633 13-15
- DUAL**  
DUAL EFFECT OF DEXAMPHETAMINE ON BODY TEMPERATURE IN THE RAT. 099651 13-05
- DUALISM**  
RECEPTOR DUALISM: SOME KINETIC IMPLICATIONS. (UNPUBLISHED PAPER). 107885 13-16
- DUODENAL**  
MEDICAL MANAGEMENT AND TREATMENT OF DUODENAL ULCER. 088231 13-13
- DURAL**  
THE ATTENUATING EFFECT OF STRYCHNINE AND PHYSOSTIGMINE ON DURAL ELECTROCONVULSIVE SHOCK INDUCED RETROGRADE AMNESIA. (PH.D. DISSERTATION). 109358 13-04
- DURATION**  
CHLORPROMAZINE: CONCENTRATIONS IN PLASMA, EXCRETION IN URINE AND DURATION OF EFFECT. 086531 13-13
- COMPARISON OF PYRAZOLE AND 4-BROMOPYRAZOLE AS INHIBITORS OF ALCOHOL DEHYDROGENASES: THEIR POTENCY, TOXICITY AND DURATION OF ACTION IN MICE. 094253 13-05
- EFFECTS OF METHAMPHETAMINE AND SHOCK DURATION DURING INESCAPABLE SHOCK EXPOSURE ON SUBSEQUENT ACTIVE AND PASSIVE AVOIDANCE. 102549 13-04
- INFLUENCE OF ACTIVE BIOLOGICAL TREATMENT ON THE TIME OF DURATION OF REMISSION IN MANIC-DEPRESSIVE PSYCHOSIS. 122942 13-09
- DVP**  
SCALE FOR RATING TREATMENT EMERGENT SYMPTOMS IN PSYCHIATRY DVP. 105837 13-15
- DYSFUNCTION**  
MEPROBAMATE THERAPY FOR THE MYOFASCIAL PAIN DYSFUNCTION (MPD) SYNDROME: A DOUBLE-BLIND EVALUATION. 089881 13-17
- EFFECT OF TEMPORARY SEPTAL DYSFUNCTION ON CONDITIONING AND PERFORMANCE OF FEAR RESPONSES IN RATS. 097448 13-03
- METHYLPHENIDATE AND MINIMAL BRAIN DYSFUNCTION. 102141 13-17
- MINIMAL CEREBRAL DYSFUNCTION. 106602 13-11
- THE EFFECT OF STIMULANT DRUGS ON HUMAN FIGURE DRAWINGS IN CHILDREN WITH MINIMAL BRAIN DYSFUNCTION. 125254 13-14
- DYSKINESIA**  
PERSISTENT TARDIVE DYSKINESIA. 099993 13-15
- PERSISTENT PHENOTHIAZINE DYSKINESIA TREATED WITH TETRABENAZINE. 101988 13-11
- THIOPROPAZATE HYDROCHLORIDE IN PERSISTENT DYSKINESIA. 101989 13-11
- OBSERVATIONS ON THE EFFECT OF LEVODOPA ON TARDIVE LINGUAL-FACIAL-BUCCAL DYSKINESIA. 103204 13-15
- RESERPINE THERAPY OF PHENOTHIAZINE INDUCED DYSKINESIA. 103917 13-11
- DRUG-INDUCED DYSKINESIA IN MONKEYS: A PHARMACOLOGIC MODEL EMPLOYING 6-HYDROXYDOPAMINE. (UNPUBLISHED PAPER). 105426 13-03
- THIOPROPAZATE HYDROCHLORIDE IN PERSISTENT DYSKINESIA. 108487 13-11
- AMANTADINE HYDROCHLORIDE TREATMENT OF TARDIVE DYSKINESIA. 112538 13-07
- DYSKINESIAS**  
THE DYSKINESIAS: A NEW THERAPEUTIC APPROACH. 098292 13-08
- DYSNOMIA**  
DYSNOMIA AND IMPAIRMENT OF VERBAL MEMORY FOLLOWING INTRACAROTID INJECTION OF SODIUM AMYTAL. 092159 13-14
- DYSPEPSIA**  
A PSYCHOTROPIC AGENT IN DYSPEPSIA. 111657 13-14
- DYSTHYMIC**  
RESULTS OF TREATMENT OF DYSTHYMIC ATTACKS WITH CARBAMAZEPINE. 123891 13-07
- DYSTROPHIC**  
EFFECT OF IMIPRAMINE ON CATECHOLAMINE CONTENT IN A NEUROGENICALLY DYSTROPHIC GASTRIC WALL. 113520 13-03
- E-2**  
LABORATORY PREDICTIONS OF INFANTILE AUTISM BASED ON 5-HYDROXYTRYPTAMINE EFFLUX FROM BLOOD PLATELETS AND THEIR CORRELATION WITH THE RIMLAND E-2 SCORE. 082634 13-13
- EATING**  
THE EFFECTS OF ACUTELY ADMINISTERED FENFLURAMINE ON ACTIVITY AND EATING BEHAVIOUR. 110191 13-04
- ECG**  
ECG PICTURE IN THE COURSE OF TREATMENT OF SCHIZOPHRENIA WITH PHENOTHIAZINE DERIVATIVES. 086596 13-13
- EFFECTS OF CHLORPROMAZINE AND PROPRANOLOL ON LEFT VENTRICULAR SYSTOLIC PRESSURE, ECG, AND POTASSIUM ION EFFLUX IN THE ISOLATED PERFUSED RAT HEART. 103311 13-03
- ECG CHANGES IN FATAL IMIPRAMINE (TOFRANIL) INTOXICATION. 105387 13-15
- ECHINODERM**  
ON THE REACTION OF FERTILIZED ECHINODERM EGGS TO NEUROPHARMACOLOGICAL DRUGS. 105726 13-03
- ECONOMY**  
MEASUREMENT OF PHARMACOLOGICAL DEPRESSION OF EXPLORATORY ACTIVITY IN MICE: A CONTRIBUTION TO THE PROBLEM OF TIME ECONOMY AND SENSITIVITY. 104704 13-06
- ECS**  
INTERACTIONS OF SCOPOLAMINE AND PHYSOSTIGMINE WITH ECS AND ONE TRIAL LEARNING. 088582 13-04
- THE INFLUENCE OF OROTIC ACID ON THE RETROGRADE AMNESIA CAUSED BY ECS. 103945 13-04
- ECT**  
COMBINED TREATMENT WITH ECT AND ANTIPSYCHOTIC DRUGS IN SCHIZOPHRENIA. 108959 13-08
- EDEMA**  
LITHIUM CARBONATE AND EDEMA. 107653 13-15
- EDETATE**  
ALTERATIONS IN TREMOR REGULATION AFTER INTRACAUDATE INJECTIONS OF CALCIUM IONS OR DISODIUM EDETATE. 122541 13-03

# Subject Index

# Psychopharmacology Abstracts

## EDUCABLE

THE EFFECTIVENESS OF METHYLPHENIDATE HYDROCHLORIDE (RITALIN) ON LEARNING AND BEHAVIOR IN PUBLIC SCHOOL EDUCABLE MENTALLY RETARDED CHILDREN.

087272 13-14

## EEG

ARE OVER-THE-COUNTER SLEEP MEDICATIONS EFFECTIVE? ALL-NIGHT EEG STUDIES.

079234 13-14

EFFECTS OF QUINALBARBITONE (SECOBARBITAL) AND NITRAZEPAM ON THE EEG IN MAN: QUANTITATIVE INVESTIGATIONS.

082826 13-13

QUANTITATIVE EEG ANALYSIS OF SINGLE-DOSE EFFECT RELATIONSHIPS IN NORMAL VOLUNTEERS OF PACINOX (CAPURIDE), A NEW ANTI-ANXIETY DRUG.

087487 13-10

EFFECTS OF OPIOID ANALGESICS AND ANTAGONISTS ON THE EEG (UNPUBLISHED PAPER).

088360 13-14

EEG CHANGES WITH LITHIUM THERAPY.

089070 13-09

EEG AND BEHAVIORAL EFFECTS OF DRUG THERAPY IN CHILDREN.

095924 13-14

EEG, EVOKED POTENTIAL, AND CONTINGENT NEGATIVE VARIATIONS WITH LITHIUM IN MANIC DEPRESSIVE DISEASE.

097458 13-09

ACTION OF A BENZODIAZEPINE DERIVATIVE, RO-5-4200, ON THE EEG AND SLEEP CYCLE IN PATIENTS WITH INSOMNIA.

098662 13-07

THE EFFECTS OF MORPHINE, MORPHINONE AND THEBAINE ON THE EEG AND BEHAVIOR OF RABBITS AND CATS.

100217 13-05

BEHAVIORAL AND EEG PATTERNS IN THE CAT COINCIDENT WITH SYSTEMATIC AND INTRACRANIAL STIMULATION WITH D-AMPHETAMINE SULFATE DURING A VISUAL DISCRIMINATION TASK. (PH.D. DISSERTATION).

102635 13-03

THE INFLUENCE OF BARBITURATES ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCI.

104375 13-03

INFLUENCE OF CHLORDIAZEPOXIDE ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCI.

104376 13-03

EEG CHANGES AFTER FLUPHENAZINE ENANTHATE AND DECAOATE BASED ON ANALOG POWER SPECTRA AND DIGITAL COMPUTER PERIOD ANALYSIS.

105009 13-13

EEG CHANGES AFTER PSILOCYBIN IN ORGANIC BRAIN LESIONS.

106000 13-13

DIFFERENT REACTION OF FOCAL AND DIFFUSE EPILEPTIC EEG ACTIVITY TO PSILOCYBIN.

106001 13-13

THE EFFECT OF AMITRIPTYLINE ON THE BEHAVIOUR AND EEG OF RATS AFTER DEPLETION OF SEROTONIN BY PARA-CHLOROPHENYLAMINE.

106093 13-03

DISSOCIATION BETWEEN EEG AND SPONTANEOUS BEHAVIOUR OF RATS AFTER ATROPINE.

106094 13-03

DIGITAL COMPUTER ANALYZED RESTING AND SLEEP EEG INVESTIGATIONS AND CLINICAL CHANGES DURING MOLINDONE TREATMENT.

107244 13-08

EEG PROFILES OF FENFLURAMINE, AMOBARBITAL AND DEXTROAMPHETAMINE IN NORMAL VOLUNTEERS.

107630 13-16

EFFECTS OF PSILOCYBIN, DIMETHYLTRYPTAMINE, Mescaline AND VARIOUS LYSERGIC ACID DERIVATIVES ON THE EEG AND ON PHOTICALLY INDUCED EPILEPSY (PAPO-PAPO).

109620 13-03

EEG FREQUENCY ANALYSIS IN THE TREATMENT WITH SOME ANTIDEPRESSANT DRUGS: (IMIPRAMINE, AMITRIPTYLINE, DIBENZEPINE, DIMETHACRINE).

112289 13-09

ON THE FUNCTIONAL RELATIONSHIP BETWEEN PHYSIOLOGICAL AND PENTETRAZOL INDUCED RHYTHMIC ACTIVITY IN THE EEG OF UNRESTRAINED RATS.

113567 13-03

CLINICAL AND QUANTITATIVE EEG CHANGES AT DIFFERENT DOSAGE LEVELS OF FLUPHENAZINE TREATMENT.

115401 13-08

EXTRAPYRAMIDAL MOTORIC SYMPTOMS AND EEG CHANGES AFTER APPLICATION OF PHENOTHIAZINE DERIVATIVES.

123602 13-15

LITHIUM EFFECTS ON THE EEG AND SOMATOSENSORY EVOKED RESPONSE IN RELATION TO SODIUM METABOLISM.

125569 13-13

## EEL

EFFECTS OF LSD-25 AND Mescaline ON THE ELECTROPLAX OF THE ELECTRIC EEL.

109918 13-03

## EFFECTIVENESS

EFFECTIVENESS OF ANTIDEPRESSANT DRUGS: A TRIPLE-BLIND STUDY COMPARING IMIPRAMINE, DESIPRAMINE, AND PLACEBO.

079289 13-10

THE EFFECTIVENESS OF METHYLPHENIDATE HYDROCHLORIDE (RITALIN) ON LEARNING AND BEHAVIOR IN PUBLIC SCHOOL EDUCABLE MENTALLY RETARDED CHILDREN.

087272 13-14

EFFECTIVENESS OF VARIOUS TRANQUILLISERS IN THE MANAGEMENT OF SENILE RESTLESSNESS.

088488 13-14

ASSESSING ANTIDEPRESSANTS EFFECTIVENESS.

092841 13-10

METHODOLOGICAL ISSUES IN EVALUATING THE EFFECTIVENESS OF AGENTS FOR TREATING ANXIOUS PATIENTS.

095539 13-10

CLINICAL EFFECTIVENESS OF CLOZAPINE (INVESTIGATION WITH THE AMP SYSTEM).

099030 13-08

CITRATED CALCIUM CARBIMIDE/ALCOHOL REACTION - ITS SEVERITY AND EFFECTIVENESS AS A DETERRENT.

103099 13-11

CLINICAL POSSIBILITIES OF THE EVALUATION OF PHARMACOTHERAPY, INVESTIGATED BY TESTING THE EFFECTIVENESS OF THE NEUROLEPTIC DRUG PIMOZIDE.

104226 13-07

EFFECT OF AMPHETAMINE ON THE UPTAKE, RELEASE AND EFFECTIVENESS OF XYLOCHOLINE IN THE GUINEA-PIG VAS-DEFERENS.

105411 13-03

## EFFLUX

LABORATORY PREDICTIONS OF INFANTILE AUTISM BASED ON 5-HYDROXYTRYPTAMINE EFFLUX FROM BLOOD PLATELETS AND THEIR CORRELATION WITH THE RIMLAND E-2 SCORE.

082634 13-13

EFFECTS OF CHLORPROMAZINE AND PROPRANOLOL ON LEFT VENTRICULAR SYSTOLIC PRESSURE, ECG, AND POTASSIUM ION EFFLUX IN THE ISOLATED PERFUSED RAT HEART.

103311 13-03

## EGGS

ON THE REACTION OF FERTILIZED ECHINODERM EGGS TO NEUROPHARMACOLOGICAL DRUGS.

105726 13-03

## EJACULATION

PREMATURE EJACULATION AND ITS TREATMENT.

123352 13-14

## ELAMOL

AN EVALUATION OF TOFENACINE (ELAMOL), A NEW DRUG FOR THE TREATMENT OF DEPRESSION.

102349 13-07

## ELDERLY

TREATING ANXIETY AND DEPRESSION IN THE ELDERLY: A DOUBLE-BLIND CROSSOVER EVALUATION OF TWO WIDELY USED TRANQUILIZERS.

079011 13-11

TOXICITY OF LITHIUM CARBONATE IN ELDERLY PATIENTS.

079779 13-13

COMBINATION MEDICATIONS IN PSYCHIATRIC TREATMENT: PATTERNS IN A GROUP OF ELDERLY HOSPITAL PATIENTS.

086704 13-14

## ELECTRIC

EFFECTS OF LSD-25 AND Mescaline ON THE ELECTROPLAX OF THE ELECTRIC EEL.

109918 13-03

## ELECTRICAL

THE EFFECTS OF MORPHINE, PENTOBARBITAL AND CHLORPROMAZINE ON BIOELECTRICAL POTENTIALS EVOKED IN THE BRAIN STEM OF THE CAT BY ELECTRICAL STIMULATION OF THE GINGIVA AND TOOTH PULP.

094254 13-05

EFFECT OF FENFLURAMINE ON THE ELECTRICAL ACTIVITY OF THE HYPOTHALAMIC FEEDING CENTERS.

102391 13-03

EFFECTS OF BENZODIAZEPINES ON SPONTANEOUS ELECTRICAL ACTIVITY OF SUBCORTICAL AREAS IN BRAIN OF CAT.

103649 13-03

EFFECT OF 6-HYDROXYDOPAMINE ON ELECTRICAL SELF-STIMULATION OF THE BRAIN.

104539 13-04

LEARNED ESCAPE BEHAVIOR INDUCED BY BRAIN ELECTRICAL STIMULATION AND VARIOUS NEUROACTIVE AGENTS.

104786 13-04

THE RELEASE OF 3H-DOPAMINE FROM CAT BRAIN FOLLOWING ELECTRICAL STIMULATION OF THE SUBSTANTIA-NIGRA AND CAUDATE NUCLEUS.

107046 13-03

- ELECTROCLINICAL**  
ELECTROCLINICAL STUDY OF A CASE OF NEUROMYOTONIA WITH MYOKYMIA, REACTING FAVORABLY TO CARBAMAZEPINE TREATMENT. 121796 13-13
- ELECTROCONVULSIVE**  
DIAZEPAM MODIFIED ELECTROCONVULSIVE THERAPY. 090499 13-07  
A COMPARISON OF STATE DEPENDENT LEARNING INDUCED BY ELECTROCONVULSIVE SHOCK AND PENTOBARBITAL. 105362 13-04  
THE ATTENUATING EFFECT OF STRYCHNINE AND PHYSOSTIGMINE ON DURAL ELECTROCONVULSIVE SHOCK INDUCED RETROGRADE AMNESIA. (PH.D. DISSERTATION). 109358 13-04
- ELECTROCORTICOGRAM**  
STATISTICAL AMPLITUDE ANALYSIS OF THE INTEGRATED ELECTROCORTICOGRAM OF UNRESTRAINED RATS BEFORE AND AFTER PROCHLORPERMAZINE. 082863 13-03
- ELECTRODERMAL**  
RELAXATION TRANSFER IN ELECTRODERMAL ACTIVITY AS AFFECTED BY A NEW MINOR TRANQUILIZER (4306CB). 105006 13-14
- ELECTRODERMOGRAM**  
EFFECTS OF AMYLOBARBITONE AND NITRAZEPAM ON THE ELECTRODERMOGRAM AND OTHER FEATURES OF SLEEP. 099118 13-14
- ELECTRODES**  
A SIMPLE RAPID METHOD FOR PREPARING PARALLEL MICROPIPETTE ELECTRODES. 112202 13-16
- ELECTROENCEPHALOGRAM**  
DECLINE IN THE MEAN INTEGRATED ELECTROENCEPHALOGRAM VOLTAGE DURING MORPHINE ABSTINENCE IN THE RAT. 086106 13-03
- ELECTROENCEPHALOGRAPHIC**  
CLINICAL AND ELECTROENCEPHALOGRAPHIC EFFECTS OF CINANSERIN IN SCHIZOPHRENIC AND MANIC PATIENTS. 088153 13-07  
ELECTROENCEPHALOGRAPHIC AND BEHAVIORAL ALTERATIONS PRODUCED BY DELTA1-TETRAHYDROCANNABINOL. 088973 13-04  
ELECTROENCEPHALOGRAPHIC STUDIES ON CODEINE DEPENDENCE IN RAT WITH SPECIAL REFERENCE TO THE SPIKE FORMATION IN THE HIPPOCAMPUS DURING ABSTINENCE SYNDROME. 098304 13-03  
ELECTROENCEPHALOGRAPHIC VARIATIONS FOLLOWING ANTIPSYCHOTIC DRUG TREATMENT. 100204 13-15  
A QUANTITATIVE ELECTROENCEPHALOGRAPHIC COMPARISON OF SOME BENZODIAZEPINES IN THE PRIMATE. 100212 13-03  
ELECTROENCEPHALOGRAPHIC CHANGES DURING PYRITHIOXINE (ENCEPHABOL) THERAPY. 101936 13-13  
ELECTROENCEPHALOGRAPHIC CHANGES DURING PYRITHIOXINE (ENCEPHABOL) THERAPY. 102604 13-13  
CLINICAL TOXICOLOGICAL AND ELECTROENCEPHALOGRAPHIC STUDY WITH SCH-12679 IN CHRONIC SCHIZOPHRENICS. 103325 13-07  
THE ELECTROENCEPHALOGRAPHIC RECORDING OF SHORT-TERM AND LONG-TERM LITHIUM EFFECT. 104441 13-13  
PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN. III. ELECTROENCEPHALOGRAPHIC STUDY IN RABBITS. 105840 13-03  
CLINICAL AND ELECTROENCEPHALOGRAPHIC ASSESSMENT OF DIAZEPAM IN LIVER DISEASE. 111963 13-15
- ELECTROGRAPHIC**  
BEHAVIORAL AND ELECTROGRAPHIC EFFECTS OF D-LYSERGIC ACID DIETHYLAMIDE (LSD-25) ON THE PHOTOSENSITIVE PAPIO-PAPIO. 086702 13-03
- ELECTROLYTE**  
INVESTIGATIONS ON THE ELECTROLYTE CONTENTS OF ANATOMICALLY DEFINED PARTS OF THE BRAIN IN NORMAL AND LITHIUM - TREATED RATS. 123279 13-03
- ELECTROLYTES**  
DISTRIBUTION OF ELECTROLYTES WITHIN THE BRAIN OF LITHIUM TREATED RATS. 123289 13-03
- ELECTRON**  
MECHANISM OF ACTION OF ANTIPSYCHOTIC DRUGS ON BIOLOGICAL ELECTRON TRANSPORT. 087365 13-03
- ON THE ELECTRON DONATING PROPERTIES OF THE MAJOR TRANQUILIZERS. 087366 13-01
- ELECTROPHYSIOLOGICAL**  
ELECTROPHYSIOLOGICAL STUDY OF THE ACTION OF A NEW BENZODIAZEPINE DERIVATIVE (ORF-8063) ON THE CENTRAL NERVOUS SYSTEM. 117025 13-04
- ELECTROPLAX**  
EFFECTS OF LSD-25 AND Mescaline ON THE ELECTROPLAX OF THE ELECTRIC EEL. 109918 13-03
- ELECTRO RADIOGRAPHIC**  
ELECTRO RADIOGRAPHIC T-WAVE CHANGES DURING LITHIUM CARBONATE TREATMENT. 100271 13-13
- ELECTROSHOCK**  
RESERPINE AND ACETAZOLAMIDE IN MAXIMUM ELECTROSHOCK SEIZURE IN THE RAT. 082880 13-03  
THE EFFECT OF SOME BETA-ADRENERGIC BLOCKING AND OTHER DRUGS ON BRAIN LACTATE LEVELS FOLLOWING ELECTROSHOCK. 100218 13-03  
LITHIUM FOR MANIC-DEPRESSIVE DISORDERS: CHALLENGE TO ELECTROSHOCK THERAPY? 100236 13-09  
CHANGES IN FREE FATTY ACIDS OF BRAIN BY DRUG-INDUCED CONVULSIONS, ELECTROSHOCK AND ANESTHESIA. 100868 13-03  
EFFECT OF ELECTROSHOCK ON 5-HT METABOLISM IN RAT BRAIN. 104140 13-03  
EFFECT OF ALDRIN ON THE CONDITION AVOIDANCE RESPONSE AND ELECTROSHOCK SEIZURE THRESHOLD OF OFFSPRING FROM ALDRIN TREATED MOTHER. 104791 13-04  
FURTHER EXPERIENCE IN THE TREATMENT OF DEPRESSIVE STATES WITH A COMBINATION OF PSYCHOTONE AND ELECTROSHOCK THERAPY. 112443 13-09
- ELEVATION**  
CORTICOSTERONE ELEVATION MEDIATED CENTRALLY BY DELTA1-TETRAHYDROCANNABINOL IN RATS. 079430 13-03  
ELEVATION OF BRAIN GABA BY PARGYLINE: A POSSIBLE MECHANISM FOR PROTECTION AGAINST OXYGEN TOXICITY. 106920 13-03
- ELIMINATION**  
RENAL LITHIUM ELIMINATION IN MANIC-DEPRESSIVE PATIENTS - INITIAL EXCRETION AND CLEARANCE. 087000 13-13  
DOUBLE-BLIND STUDY ON THE CORRELATIONS OF URINARY ELIMINATION OF CATECHOLAMINES AND THEIR METABOLITES (SUPPOSED TO COME THROUGH ADRENOCHROME, NORADRENOCHROME AND DOPACHROME) WITH CLINICAL STATE OF 50 PATIENTS UNDER DIFFERENT PSYCHOPHARMACOLOGIC DRUG. 087003 13-13  
DISTRIBUTION IN THE ORGANISM AND THE ELIMINATION OF LITHIUM. 107726 13-03
- EMBRYONIC**  
LSD: ITS EFFECTS UPON 5-HYDROXYTRYPTAMINE IN EMBRYONIC DEVELOPMENT OF XENOPUS-LAEVIS. 098919 13-12
- EMBRYOS**  
CHOLINE ACETYLTRANSFERASE AND ACETYLCHOLINESTERASE IN CULTURED BRAIN CELLS FROM CHICK EMBRYOS. 079663 13-03
- EMERGENCIES**  
OUTLINES OF THE MANAGEMENT OF COMMON PSYCHIATRIC CRISES AND EMERGENCIES IN THE COMMUNITY. 096018 13-17
- EMERGENT**  
SCALE FOR RATING TREATMENT EMERGENT SYMPTOMS IN PSYCHIATRY DVP. 105837 13-15
- EMERGIL**  
RESULTS FROM FLUPENTHIXOL (EMERGIL). 100606 13-07
- EMINENCE**  
ALCOHOL INGESTION IN RATS FOLLOWING MEDIAN EMINENCE LESIONS. 079428 13-04
- EMOTION**  
EMOTION AND SKIN: A DOUBLE-BLIND EVALUATION OF PSYCHOTROPIC AGENTS. 103630 13-13
- EMOTIONAL**  
EMOTIONAL DISTURBANCE ACCOMPANYING THE TREATMENT OF PARKINSONISM WITH L-DOPA. 069514 13-14

## Subject Index

- EXPERIENCE WITH LITHIUM PROPHYLAXIS OF RECURRENT EMOTIONAL DISORDERS IN A PSYCHIATRIC OUTPATIENTS CLINIC. 089129 13-17
- CLINICAL EXPERIENCE WITH THIORIDAZINE (MELLERIL) IN THE TREATMENT OF ANXIETY AND DEPRESSION ASSOCIATED WITH EMOTIONAL DISORDERS IN GENERAL PRACTICE. 097556 13-10
- TREATMENT OF EMOTIONAL SYMPTOMS AND INSOMNIA WITH PLEXONAL. 099158 13-11
- QUANTITATIVE POLYGRAPHIC EVALUATION OF EMOTIONAL TENSION IN THE STUDY OF A NEW BENZODIAZEPINE. 100537 13-07
- P-CHLOROPHENYLALANINE EFFECTS ON A CONDITIONED EMOTIONAL RESPONSE IN RATS. 100565 13-04
- EFFECTS OF DIAZEPAM AND MECLIZINE HYDROCHLORIDE ON EMOTIONAL UPSET DUE TO PERCEPTUAL DISSONANCE AND MOTION. 101578 13-04
- EXPERIENCE WITH ADMINISTRATION OF MOYLEPTIL FOR THE TREATMENT OF EMOTIONAL DISORDERS AND BEHAVIORAL DISTURBANCES IN EPILEPTIC PATIENTS. 102795 13-11
- DIFFERENTIAL ACTIVITY OF SOME PSYCHOTROPIC DRUGS AS A FUNCTION OF EMOTIONAL LEVEL IN ANIMALS. 103952 13-04
- MONOAMINES AND OVARIAN HORMONE LINKED SEXUAL AND EMOTIONAL CHANGES: A REVIEW. 110462 13-17
- EFFECT OF PSYCHOTROPIC AGENTS ON THE EMOTIONAL BEHAVIOR OF CATS INJECTED WITH ACETYLCHOLINE INTO THE CENTRAL GRAY MATTER. 112007 13-04
- EMOTIONALLY LONG-TERM EFFECTS OF HALOPERIDOL ON SEVERELY EMOTIONALLY DISTURBED CHILDREN. 118717 13-11
- EMPLOYING TREATMENT OF PHOBIC ANXIETY AND PSYCHOGENIC IMPOTENCE BY SYSTEMATIC DESENSITIZATION EMPLOYING METHOHEXITONE INDUCED RELAXATION. 099320 13-10
- DRUG-INDUCED DYSKINESIA IN MONKEYS: A PHARMACOLOGIC MODEL EMPLOYING 6-HYDROXYDOPAMINE. (UNPUBLISHED PAPER). 105426 13-03
- EN-1639A CHARACTERIZATION OF THE BLOCKING EFFECTS OF EN-1639A (N-CYCLOPROPYLMETHYL 7,8-DIHYDRO 14-HYDROXYNORMORPHINONE HCL). (UNPUBLISHED PAPER). 088400 13-13
- ENANTHATE EXCRETION AND BIOTRANSFORMATION OF THE ENANTHATE ESTER OF FLUPHENAZINE-14C BY THE DOG. 086578 13-03
- PROLIXIN ENANTHATE AND THORAZINE STELAZINE REGIMENS IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS. AN EXPERIMENTAL EVALUATION. 096017 13-08
- EEG CHANGES AFTER FLUPHENAZINE ENANTHATE AND DECANOATE BASED ON ANALOG POWER SPECTRA AND DIGITAL COMPUTER PERIOD ANALYSIS. 105009 13-13
- FLUPHENAZINE ENANTHATE IN THE TREATMENT OF CHRONIC PSYCHOTIC PATIENTS: A CONTROLLED CLINICAL STUDY. 105673 13-08
- THE CONTRIBUTION OF FLUPHENAZINE ENANTHATE AND DECANOATE IN THE PREVENTION OF READMISSION OF SCHIZOPHRENIC PATIENTS. 115399 13-08
- ENCEPHABOL ELECTROENCEPHALOGRAPHIC CHANGES DURING PYRITHIOXINE (ENCEPHABOL) THERAPY. 101936 13-13
- EXPERIMENTAL AND CLINICAL EXPERIENCE WITH ENCEPHABOL THERAPY IN GERONTOPSYCHIATRY. 101939 13-14
- ELECTROENCEPHALOGRAPHIC CHANGES DURING PYRITHIOXINE (ENCEPHABOL) THERAPY. 102604 13-13
- THE EFFECT OF PYRITHIOXINE (ENCEPHABOL) ON BEHAVIOUR OF RATS, MALNOURISHED IN EARLY LIFE. 105999 13-14
- PYRITHIOXINE (ENCEPHABOL) IN PSYCHIATRIC PRACTICE. 109885 13-11
- ENCEPHALOPATHY PHENYTOIN ENCEPHALOPATHY? 101763 13-05

## Psychopharmacology Abstracts

- ENCOUNTER THE PSYCHEDELIC MYSTICAL EXPERIENCE IN THE HUMAN ENCOUNTER WITH DEATH. 089185 13-12
- A PHYSICIANS RESPONSE TO THE PSYCHEDELIC EXPERIENCE IN THE DEATH ENCOUNTER. 089186 13-12
- ENCOUNTERED PSYCHOPHARMACOTHERAPY IN PEDOPSYCHIATRY: PARADOXICAL RESPONSES AND ENCOUNTERED DIFFICULTIES. 095743 13-15
- THERAPEUTIC GUIDELINES AND SIDE-EFFECTS ENCOUNTERED DURING L-DOPA THERAPY IN 100 CASES OF PARKINSONISM. 106483 13-15
- ENDINGS IN VIVO INCORPORATION OF LABELLED CHOLINE AND ACETYLCHOLINE IN THE VESICLES OF BRAIN NERVE ENDINGS. 123283 13-03
- ENDOCRINE THE MECHANISM OF THE PUSH AND PULL PRINCIPLE. VIII: ENDOCRINE EFFECTS OF THALIDOMIDE AND ITS ANALOGUES. 106146 13-03
- ENDOGENOUS THE SUBCELLULAR DISTRIBUTION OF ENDOGENOUS AND EXOGENOUS SEROTONIN IN BRAIN TISSUE. COMPARISON OF SYNAPTOSOMES STORING SEROTONIN, NOREPINEPHRINE, AND GAMMA-AMINOBUTYRIC ACID. 077855 13-03
- SECONDARY GLUTETHIMIDE ADDICTION IN ENDOGENOUS ATYPICAL PSYCHOSES. 087021 13-15
- THE EFFECT OF A THYMOLIPTIC DRUG UPON INHIBITION OF DRIVE IN ENDOGENOUS DEPRESSION: A QUANTITATIVE STATISTICAL INVESTIGATION. 087291 13-09
- THE EFFECTS OF EXCITATORY AND INHIBITORY AMINO ACIDS ON THE METABOLISM OF ENDOGENOUS BRAIN AMINO ACIDS IN THE NEMBUTALIZED MOUSE. 099266 13-03
- LITHIUM PROPHYLAXIS IN MANIC-DEPRESSIVE PSYCHOSIS AND IN RECURRENT ENDOGENOUS DEPRESSIONS. 103320 13-09
- ENDOGENOUS DEPRESSIONS WITH AND WITHOUT DISTURBANCES IN THE 5-HYDROXYTRYPTAMINE METABOLISM: A BIOCHEMICAL CLASSIFICATION. 104832 13-13
- RESULTS OF ADMINISTRATION OF ANAFRANIL IN ENDOGENOUS DEPRESSIVE SYNDROMES. 125786 13-09
- ENERGETIC INFLUENCE OF PSYCHOTOMIMETIC SUBSTANCES ON THE ENERGETIC METABOLISM OF BRAIN MITOCHONDRIA. 107725 13-03
- ENERGY THE INFLUENCE OF BARBITURATE ANESTHESIA UPON THE ENERGY STATE AND UPON ACID BASE PARAMETERS OF THE BRAIN IN ARTERIAL HYPOTENSION AND IN ASPHYXIA. 095999 13-03
- ENFORCED CHLORPROTHIXENE ENFORCED SLEEP FOR NEWLY ADMITTED PATIENTS WITH ACUTE MENTAL DECOMPENSATION. 078951 13-14
- ENHANCEMENT ENHANCEMENT OF AMPHETAMINE INDUCED STEREOTYPED BEHAVIOR BY BENZODIAZEPINES. 078936 13-04
- DOPA REVERSAL OF RESERPINE ENHANCEMENT OF AUDIOGENIC SEIZURE SUCCEPTIBILITY IN MICE. 088577 13-03
- ENHANCEMENT OF FATTY ACID OXIDATION AND MEDIUM CHAIN FATTY ACYL COENZYME A SYNTHETASE BY ADENINE NUCLEOTIDES IN RAT HEART HOMOGENATES. 089434 13-03
- ENHANCEMENT OF METHYLDOPA METABOLISM WITH BARBITURATE. 100132 13-13
- THE RELATIONSHIP BETWEEN THE INHIBITION OF DOPAMINE UPTAKE AND THE ENHANCEMENT OF AMPHETAMINE STEREOTYPY. 100566 13-03
- FURTHER OBSERVATION ON THE ENHANCEMENT BY MORPHINE OF THE CENTRAL DESCENDING INHIBITORY INFLUENCE ON SPINAL SENSORY TRANSMISSION. 125358 13-03
- ENHANCES EXPERIMENTS WITH UCB-6215, A DRUG WHICH ENHANCES ACQUISITION IN RATS. ITS EFFECTS COMPARED WITH THOSE OF METHAMPHETAMINE. 107159 13-04

- ENTRY**  
EFFECT OF ETHANOL ON ENTRY OF SOME SUBSTANCES INTO THE BRAINS OF RATS. 100508 13-03  
ENTRY AND DISTRIBUTION OF HEXAMETHONIUM IN THE CENTRAL NERVOUS SYSTEM. 105706 13-03  
EFFECTS OF INTRAPERITONEAL INJECTIONS OF LITHIUM CHLORIDE ON THE ENTRY OF RADIOACTIVE CARBON ATOMS OF GLUCOSE AND AMINO ACIDS INTO MOUSE BRAIN AND OTHER TISSUES. 106524 13-03
- ENTUMIN**  
CLINICAL EXPERIENCE WITH CLOTHIAPIN (ENTUMIN) IN SCHIZOPHRENIC PSYCHOSES. 105924 13-08
- ENURESIS**  
NITRAZEPAM IN ENURESIS. 100256 13-11  
IMIPRAMINE IN THE TREATMENT OF CHILDHOOD ENURESIS. 111658 13-11
- ENZYMATIC**  
EFFECT OF MONOAMINE OXIDASE INHIBITORS ON QUALITATIVE ALTERATIONS IN ENZYMATIC PROPERTIES OF MITOCHONDRIAL MONOAMINE OXIDASES. 118566 13-03
- ENZYME**  
SPECIES AND AGE DIFFERENCES IN THE ACTIVITY OF ISOCARBOXAZID HYDROLYSING ENZYME. 104324 13-03  
MONOAMINE OXIDASE IN SYMPATHETIC NERVES: A TRANSMITTER SPECIFIC ENZYME TYPE. 108792 13-03
- ENZYMES**  
EFFECT OF CHRONIC ADMINISTRATION OF NICOTINE ON THE CONCENTRATIONS OF ADRENAL ENZYMES INVOLVED IN THE SYNTHESIS AND METABOLISM OF ADRENALINE. 104535 13-03  
CHANGES IN THE ACTIVITY OF OXIDATIVE ENZYMES IN THE BRAIN OF RATS UNDER THE EFFECT OF TRIFLUOPERAZINE (STELAZINE). 113522 13-03  
RAT STRAIN DIFFERENCES IN THE ACTIVITY OF HEPATIC MICROSOMAL ENZYMES. 118564 13-03
- EPHEDRINE**  
PHYSIOLOGIC, SUBJECTIVE AND BEHAVIORAL EFFECTS OF AMPHETAMINE, METHAMPHETAMINE, EPHEDRINE, PHENMETRAZINE, AND METHYLPHENIDATE IN MAN. 095003 13-13
- EPILEPSY**  
ON THE PHARMACOTHERAPY OF EPILEPSY IN CHILDREN. 102826 13-17  
TREATMENT OF PATIENTS WITH TRAUMATIC EPILEPSY IN THE INITIAL PERIOD OF THE DISEASE. 102827 13-13  
EFFECTS OF PSILOCYBIN, DIMETHYLTRYPTAMINE, Mescaline AND VARIOUS LYSERGIC ACID DERIVATIVES ON THE EEG AND ON PHOTICALLY INDUCED EPILEPSY (PAPIO-PAPIO). 109620 13-03  
TREATMENT OF PERSISTENT MENTAL CHANGES IN CHILDREN WITH EPILEPSY. 109947 13-14  
TREATMENT OF EPILEPSY AS A PSYCHIATRIC PROBLEM. 123889 13-11  
USEFULNESS OF SULTHIAMINE IN THE TREATMENT OF EPILEPSY. 123892 13-11
- EPILEPTIC**  
BLOOD LEVELS OF DIAZEPAM (VALIUM) AND N-DESMETHYLDIAZEPAM IN THE EPILEPTIC CHILD: A PRELIMINARY REPORT. 093821 13-13  
EXPERIENCE WITH ADMINISTRATION OF NOYLEPTIL FOR THE TREATMENT OF EMOTIONAL DISORDERS AND BEHAVIORAL DISTURBANCES IN EPILEPTIC PATIENTS. 102795 13-11  
ON THE CLINICAL PICTURE OF COMPLICATIONS IN THE TREATMENT OF EPILEPTIC PATIENTS WITH ANTICONVULSANTS. 102829 13-15  
INFLUENCE OF AMINAZINE ON THE ADAPTATION OF THE CARDIOVASCULAR SYSTEM IN EPILEPTIC PATIENTS. 102830 13-17  
DIFFERENT REACTION OF FOCAL AND DIFFUSE EPILEPTIC EEG ACTIVITY TO PSILOCYBIN. 106001 13-13  
INTERRELATIONS OF FOLIC ACID AND VITAMIN-B12 IN DRUG TREATED EPILEPTIC PATIENTS. 106063 13-11
- SERUM FOLIC ACID AND PHENYTOIN LEVELS IN PERMANENTLY HOSPITALIZED EPILEPTIC PATIENTS RECEIVING ANTICONVULSANT DRUG THERAPY. 108727 13-15  
USE OF TEGRETOL IN THE TREATMENT OF EPILEPTIC PATIENTS WITH MENTAL DISORDERS. 110120 13-11  
USE OF AMPULLIZED SEDUXEN IN TREATMENT OF EPILEPTIC STATUS. 113747 13-11
- EPILEPTIFORM**  
THE EFFECTS OF ESERINE AND ATROPINE ON THE EPILEPTIFORM ACTIVITY OF CHRONICALLY ISOLATED CORTEX. 106065 13-03
- EPINEPHRINE**  
THE ROLE OF BODY ATTITUDES AND ACQUIESCENCE IN EPINEPHRINE AND PLACEBO EFFECTS. 079188 13-14  
THE EFFECTS OF EPINEPHRINE AND CHLORPROMAZINE ON VISUAL CLIFF BEHAVIOR IN HOODED AND ALBINO RATS. 088070 13-04  
THE EFFECT OF OCTOCLOTHEPINE ON THE EPINEPHRINE AGGREGATION TEST. 106097 13-15
- EPISODES**  
MODIFICATION OF DEPRESSIVE EPISODES DURING PROPHYLACTIC ADMINISTRATION OF LITHIUM SALTS. 105831 13-09  
REPEATED EPISODES OF PHENMETRAZINE PSYCHOSIS. 105894 13-15  
PSYCHOTIC EPISODES PROVOKED BY A COMBINATION OF BARBITURATES AND PHENMETRAZINE. 112436 13-15
- EQUIVALENCE**  
DIAZEPAM: A CLINICAL TRIAL OF THERAPEUTIC EQUIVALENCE. 101564 13-10
- ERETHISMIC**  
COMPARISON OF PROCHLORPERAZINE, PERPHENAZINE, AND OCTOCLOTHEPIN IN ERETHISMIC OLIGOPHRENIA. 105834 13-14
- ERGOTHERAPEUTIC**  
CLINICAL AND ERGOTHERAPEUTIC EVALUATION OF FLUSPIRILENE (R-6218), A LONG-ACTING INJECTABLE NEUROLEPTIC, IN CHRONIC PSYCHOTIC PATIENTS. 102577 13-07
- ERROR**  
A SOURCE OF ERROR IN THE ESTIMATION OF VANILLYLMANDELIC ACID IN RAT URINE USING PERIODATE OXIDATION (UNPUBLISHED PAPER). 092893 13-06
- ERYTHROCYTE**  
LITHIUM CARBONATE AND ERYTHROCYTE AGGREGATION STATES. 095155 13-09
- ERYTHROCYTES**  
DECARBOXYLATION OF RADIOACTIVE DOPA BY ERYTHROCYTES IN SCHIZOPHRENIA. 100598 13-14  
CHOLINESTERASE ACTIVITY IN THE ERYTHROCYTES AND BLOOD PLASMA OF SCHIZOPHRENIC PATIENTS DURING TREATMENT WITH DIMETHYLOAMINOETHANOLIC ESTERS. 118204 13-08
- ESCAPE**  
EFFECTS OF RIBONUCLEASE ON ACQUISITION AND RETENTION OF ESCAPE AVOIDANCE BEHAVIOR IN A SELECTIVELY BRED RAT STRAIN. 078453 13-04  
TEMPORAL EFFECTS OF RNASE AND DNASE IN DISRUPTING ACQUIRED ESCAPE BEHAVIOR IN REGENERATED PLANARIA. 079423 13-04  
THE EFFECTS OF CHLORPROMAZINE AND D-AMPHETAMINE ON THE ACQUISITION AND PERFORMANCE OF A CONDITIONED ESCAPE RESPONSE IN RATS. 091532 13-03  
EFFECTS OF AMPHETAMINE AND CHLORPROMAZINE ON SECOND-ORDER ESCAPE BEHAVIOR IN SQUIRREL MONKEYS. 102189 13-04  
LEARNED ESCAPE BEHAVIOR INDUCED BY BRAIN ELECTRICAL STIMULATION AND VARIOUS NEUROACTIVE AGENTS. 104786 13-04  
A CONTROLLED COMPARISON OF DRUG EFFECTS ON ESCAPE FROM CONDITIONED AVERSIVE STIMULATION (ANXIETY) AND FROM CONTINUOUS SHOCK. 112313 13-04
- ESERINE**  
THE EFFECTS OF ESERINE AND ATROPINE ON THE EPILEPTIFORM ACTIVITY OF CHRONICALLY ISOLATED CORTEX. 106065 13-03  
EFFECT OF ESERINE INJECTED INTRAVENTRICULARLY ON BEHAVIOUR AND ON ACTIVITY OF CHOLINESTERASE IN SOME STRUCTURES OF THE CEREBRAL VENTRICLES OF THE CONSCIOUS CAT. 106424 13-04

## Subject Index

- EFFECTS OF POST-TRIAL INJECTIONS OF SCOPOLAMINE AND ESERINE ON ACQUISITION OF A SIMULTANEOUS BRIGHTNESS DISCRIMINATION. 111052 13-04
- ESTER**
- EXCRETION AND BIOTRANSFORMATION OF THE ENANTHATE ESTER OF FLUPHENAZINE-14C BY THE DOG. 086578 13-03
- MATING BEHAVIOR IN THE MALE RAT TREATED WITH P-CHLOROPHENYLALANINE METHYL ESTER ALONE AND IN COMBINATION WITH PARGYLINE. 104431 13-04
- ESTERS**
- BIOCHEMICAL AND BEHAVIOURAL EFFECTS OF SOME HALO-SUBSTITUTED VINYL PHOSPHORUS ESTERS. 102102 13-03
- CHOLINESTERASE ACTIVITY IN THE ERYTHROCYTES AND BLOOD PLASMA OF SCHIZOPHRENIC PATIENTS DURING TREATMENT WITH DIMETHYLAminoETHANOLIC ESTERS. 118204 13-08
- STUDIES OF THE SPONTANEOUS MOVEMENT OF ANIMALS BY THE HOLE CROSS TEST; EFFECT OF 2-DIMETHYLAMINOETHANOL AND ITS ACYL ESTERS ON THE CENTRAL NERVOUS SYSTEM. 120930 13-03
- ESTIMATION**
- A SOURCE OF ERROR IN THE ESTIMATION OF VANILLYLMADELIC ACID IN RAT URINE USING PERIODATE OXIDATION (UNPUBLISHED PAPER). 092893 13-06
- THE ESTIMATION OF LITHIUM IN SERUM. 099315 13-16
- ESTROGEN**
- PROGESTERONE ESTROGEN INTERACTIONS IN THE CONTROL OF ACTIVITY WHEEL RUNNING IN THE FEMALE RAT. 086683 13-14
- EFFECTS OF ESTROGEN AND PROGESTERONE ON SLEEP PATTERNS OF FEMALE RATS. 095385 13-04
- THE ACUTE EFFECTS OF ESTROGEN AND PROGESTERONE ON THE MONOAMINE LEVELS OF THE BRAIN OF OVARECTOMIZED RATS. 104790 13-03
- PSYCHOPHARMACOLOGICAL ESTROGEN ACTIVITY. 108570 13-16
- LORDOSIS BEHAVIOR IN MALE RATS TREATED WITH ESTROGEN IN COMBINATION WITH TETRABENAZINE AND NIALAMIDE. 125165 13-04
- ESTROGENS**
- PLASMA MONOAMINE OXIDASE ACTIVITY IN REGULARLY MENSTRUATING WOMEN AND IN AMENORRHEIC WOMEN RECEIVING CYCLIC TREATMENT WITH ESTROGENS AND A PROGESTIN. 104616 13-13
- ETHANOL**
- EFFECTS OF CHLORAL HYDRATE, PARALDEHYDE, AND ETHANOL ON THE METABOLISM OF (14C) SEROTONIN IN THE RAT. 077868 13-03
- EFFECT OF TRYPTOPHAN ON TOXICITY AND DEPRESSANT EFFECTS OF BARBITURATES AND ETHANOL IN RATS. 078164 13-03
- ALCOHOL DEPENDENCE PRODUCED IN MICE BY INHALATION OF ETHANOL: GRADING THE WITHDRAWAL REACTION. 082827 13-03
- THE EFFECTS OF ETHANOL ON THE DEVELOPMENT OF GASTRIC ULCERATION IN THE RAT. 085478 13-03
- CYTOGENETIC EFFECTS OF ETHANOL IN HUMAN LEU<sub>1</sub> CYTE CULTURES. 086699 13-13
- INTERACTION AND ACUTE CROSS-TOLERANCE BETWEEN ETHANOL AND HEXOBARBITONE IN THE RAT. 087344 13-04
- EFFECT OF ACUTE AND CHRONIC ADMINISTRATION OF ETHANOL ON THE 5-HYDROXYTRYPTAMINE TURNOVER AND TRYPTOPHAN HYDROXYLASE ACTIVITY OF THE MOUSE BRAIN. 088284 13-03
- EFFECTS OF ACUTE AND CHRONIC ETHANOL ADMINISTRATION ON RIBOSOMAL PROTEIN SYNTHESIS IN MOUSE BRAIN AND LIVER. 088558 13-03
- A METHOD TO MEASURE INTERACTIONS OF VARIOUS AGENTS AND ETHANOL ON BEHAVIORAL PERFORMANCE IN RATS. MEDICINE. 088624 13-06
- A SURVEY OF SELECTED DRUGS ON BEHAVIOR PERFORMANCE IN ETHANOL TREATED RATS. 099649 13-04
- EFFECT OF ETHANOL ON ENTRY OF SOME SUBSTANCES INTO THE BRAINS OF RATS. 100508 13-03
- INCREASE OF ETHANOL, MEPROBAMATE AND PENTOBARBITAL METABOLISM AFTER CHRONIC ETHANOL ADMINISTRATION IN MAN AND IN RATS. 100792 13-13
- DOSE RESPONSE EFFECTS OF ETHANOL ON APPETITIVE BEHAVIORS. 101741 13-04

## Psychopharmacology Abstracts

- ETHANOL AND THE NEURAL SUBSTRATE FOR AFFECTIVE DEFENSE IN THE CAT. 101748 13-04
- PYRAZOLE AND ETHANOL POTENTIATION OF TRYPTOPHOL INDUCED SLEEP IN MICE. 103647 13-04
- INTERACTION EFFECTS OF ETHANOL AND PYRAZOLE IN LABORATORY RODENTS. 104536 13-03
- STUDIES OF THE COMBINED EFFECTS OF CAFFEINE AND ETHANOL. (PH.D. DISSERTATION). 104741 13-17
- REVERSAL BY SOTALOL OF THE RESPIRATORY DEPRESSION INDUCED IN MICE BY ETHANOL. 105406 13-03
- EFFECT OF IN VIVO ETHANOL ADMINISTRATION ON ADENOSINETRIPHOSPHATASE ACTIVITY OF SUBCELLULAR FRACTIONS OF MOUSE BRAIN AND LIVER. 105518 13-03
- ALCOHOL AND THE BENZODIAZEPINES: THE INTERACTION BETWEEN INTRAVENOUS ETHANOL AND CHLORDIAZEPoxide AND DIAZEPAM. 106136 13-13
- THE EFFECTS OF CHRONIC ADMINISTRATION OF ETHANOL ON STARTLE THRESHOLDS IN RATS. 110205 13-04
- ETHANOL METABOLISM IN RATS TREATED WITH ETHYL-ALPHA-P-CHLOROPHENOXYISOBUTYRATE (CLOFIBRATE). 115044 13-03
- MYOCARDIAL INFARCTION FOLLOWING INTOXICATION WITH ETHANOL AND CHLORPROMAZINE. 118662 13-15
- THE EFFECT OF ETHANOL ON PHENOBARBITONE AND PENTOBARBITONE ABSORPTION INTO RAT BLOOD AND BRAIN. 122551 13-03
- CHANGES IN A HEXOBARBITAL ANESTHESIA THRESHOLD IN RATS INDUCED BY REPEATED LONG-TERM TREATMENT WITH BARBITAL OR ETHANOL. 125248 13-03
- ETHANOLAMIDE**
- EFFECT OF PALMITOYL ETHANOLAMIDE ON THE CENTRAL NERVOUS SYSTEM. 105996 13-02
- ETHANOLAMINE**
- ANTI-ALCOHOL EFFECTS OF SOME ETHANOLAMINE PREPARATIONS. 105907 13-03
- ETHCHLORVYNOL**
- ETHCHLORVYNOL (PLACIDYL) ABUSE AND WITHDRAWAL (REVIEW OF CLINICAL PICTURE AND REPORT OF 2 CASES). 088152 13-15
- ETHER**
- PROACTIVE AND RETROACTIVE EFFECTS OF DIETHYL ETHER ON SPATIAL DISCRIMINATION LEARNING IN INBRED MOUSE STRAINS DBA/2J AND C57BL/6J. 079532 13-14
- ETHOSUXIMIDE**
- INHIBITION OF PENTETRAZOL INDUCED HYPERSYNCHRONOUS ACTIVITY IN THE THALAMOCORTICAL SYSTEM BY ETHOSUXIMIDE. 098297 13-04
- ETHYL-ALCOHOL**
- BLOOD VOLUME FOLLOWING ACUTE ETHYL-ALCOHOL INGESTION IN DOGS. 078165 13-03
- THE EFFECT OF INTRAVENOUS ETHYL-ALCOHOL ON THE CORONARY CIRCULATION AND MYOCARDIAL CONTRACTILITY OF THE HUMAN AND CANINE HEART. 087032 13-13
- COMPARISON BETWEEN ACUTE AND CHRONIC ADMINISTRATION OF ETHYL-ALCOHOL ON THE DEVELOPMENT OF TOLERANCE TO PENTOBARBITAL. 088732 13-03
- ETHYL-ALCOHOL: BLOOD LEVELS AND PERFORMANCE DECREMENTS AFTER ORAL ADMINISTRATION TO MAN. 104378 13-14
- ETHYL-ALPHA-P-CHLOROPHENOXYISOBUTYRATE**
- ETHANOL METABOLISM IN RATS TREATED WITH ETHYL-ALPHA-P-CHLOROPHENOXYISOBUTYRATE (CLOFIBRATE). 115044 13-03
- ETHYLBENZATROPINE**
- PSYCHIATRY AND IMMUNOLOGY: CONTRIBUTION OF THE EXPERIMENTAL STUDY OF THE IMMUNODEPRESSANT EFFECT OF A CORRECTOR OF EXTRAPYRAMIDAL SYNDROMES INDUCED BY NEUROLEPTICS: ETHYLBENZATROPINE. 100604 13-11
- ETHYLNORADRENALINE**
- POTENTIATION BY COCAINE OF RESPONSES OF THE GUINEA-PIG ISOLATED TRACHEAL CHAIN TO ETHYLNORADRENALINE AND ALPHA-METHYLNORADRENALINE. 122550 13-03

# VOLUME 10, NO. 13

<b>ETIOLOGY</b>	
POSSIBLE ETIOLOGY OF SCHIZOPHRENIA: PROGRESSIVE DAMAGE TO THE NORADRENERGIC REWARD SYSTEM BY 6-HYDROXYDOPAMINE.	088491 13-04
<b>ETIOPATHOGENESIS</b>	
A CONTRIBUTION TO ETIOPATHOGENESIS OF DISULFIRAM ALCOHOLIC PSYCHOSES.	087136 13-15
<b>EUPHORIA</b>	
BLOCKADE OF INTRAVENOUS AMPHETAMINE EUPHORIA IN MAN.	105083 13-13
<b>EUTHYROTIC</b>	
STUDIES WITH LITHIUM IN EUTHYROTIC, HYPERTHYROTIC AND HYPOTHYROTIC RATS.	077428 13-03
<b>EVALUATING</b>	
BEHAVIORAL TOLERANCE OF SQUIRREL MONKEYS TO HYPOXIA: A MODEL FOR EVALUATING DRUG THERAPY.	091102 13-06
METHODOLOGICAL ISSUES IN EVALUATING THE EFFECTIVENESS OF AGENTS FOR TREATING ANXIOUS PATIENTS.	095539 13-10
METHODS FOR EVALUATING DRUG EFFICACY IN GERIATRIC PSYCHIATRIC DISORDERS.	095540 13-11
EVALUATING CHANGES IN SYMPTOMS DURING ACUTE ALCOHOLIC WITHDRAWAL.	097378 13-11
GLOBAL RATINGS COMPARED TO RATING SCALES IN EVALUATING TRIFLUOPERAZINE AMOBARBITAL IN ANXIOUS PSYCHONEUROTIC OUTPATIENTS.	098093 13-10
METHODOLOGICAL DIFFICULTIES OF EVALUATING PSYCHOTROPIC DRUGS.	122945 13-17
<b>EVALUATION</b>	
PROBLEMS IN THE EVALUATION OF A NEW ANTIDEPRESSANT DRUG IN PRISON VOLUNTEERS.	070714 13-13
EVALUATION OF THE HYPNOTIC PROPERTIES OF PROMETHAZINE ON CHRONIC SCHIZOPHRENICS.	077430 13-08
AN EVALUATION OF METIAPINE IN CHRONIC SCHIZOPHRENIA.	077913 13-08
THE PHARMACOLOGIST - CLINICAL INVESTIGATOR DIALOGUE IN EVALUATION OF NEW PSYCHOTHERAPEUTIC DRUGS.	078956 13-07
TREATING ANXIETY AND DEPRESSION IN THE ELDERLY: A DOUBLE-BLIND Crossover EVALUATION OF TWO WIDELY USED TRANQUILIZERS.	079011 13-11
DRUGS ALTER WEB-BUILDING OF SPIDERS: A REVIEW AND EVALUATION.	079096 13-04
EVALUATION OF FLURAZEPAM.	082832 13-17
OPEN TRIAL EVALUATION OF KETO-IMIPRAMINE.	083163 13-07
CL-67772: A PRELIMINARY EVALUATION OF A POTENTIAL ANTIDEPRESSANT COMPOUND: ANIMAL AND HUMAN CORRELATIONS.	086893 13-11
CHEMISTRY AND PHARMACOLOGICAL EVALUATION OF 1-PHENYL-2-PROPANOLS AND 1-PHENYL-2-PROPANONES.	087062 13-02
MEPROBAMATE THERAPY FOR THE MYOFASCIAL PAIN DYSFUNCTION (MPD) SYNDROME: A DOUBLE-BLIND EVALUATION.	089881 13-17
CLINICAL EVALUATION OF THE ANTIDEPRESSANT EFFECTS OF DOXEPINE.	093702 13-09
EVALUATION OF EFFICACY OF PSYCHOTROPIC AGENTS IN SCHIZOPHRENIC POPULATIONS: METHODOLOGICAL PROCEDURES.	095536 13-08
METHODOLOGY FOR DRUG EVALUATION IN AFFECTIVE DISORDERS: DEPRESSION. AGENTS.	095537 13-09
METHODOLOGY FOR DRUG EVALUATION IN AFFECTIVE DISORDERS: MANIA. AGENTS.	095538 13-09
PROLIXIN ENANTHATE AND THORAZINE STELAZINE REGIMENS IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS. AN EXPERIMENTAL EVALUATION.	096017 13-08
COURSE OF BODY TEMPERATURE IN NEUROLEPTIC INJECTION TREATMENTS: STATISTICAL EVALUATION OF RETROSPECTIVE DATA.	098272 13-15
EVALUATION OF TRANQUILLISERS WITH SUBNORMAL PATIENTS.	098736 13-14
A FIRST EVALUATION.	099012 13-08

# Subject Index

EVALUATION OF TRANQUILLISERS WITH SUBNORMAL PATIENTS. 2. PERICYAZINE AND CHLORPROMAZINE.	099440 13-09
EVALUATION OF TRANQUILLISERS WITH SUBNORMAL PATIENTS. 3. BEHAVIOURAL CHANGES.	099747 13-14
EVALUATION OF A NEW HYPNOTIC AGENT: FLURAZEPAM HYDROCHLORIDE (DALMANE).	099933 13-07
EVALUATION OF A RAPID TECHNIQUE FOR DETECTING MINOR TRANQUILIZERS.	100214 13-06
METHODOLOGIC CONSIDERATIONS OF THE EVALUATION OF HYPNOTICS IN MAN: A BIOLOGIC ASSAY OF PENTOBARBITAL AND SECOBARBITAL.	100261 13-16
QUANTITATIVE POLYGRAPHIC EVALUATION OF EMOTIONAL TENSION IN THE STUDY OF A NEW BENZODIAZEPINE.	100537 13-07
A TECHNIQUE IN THE EVALUATION OF PSYCHOTROPIC MEDICATION BASED ON A PATIENT DEMAND SCHEDULE: COMPARISON OF THE EFFICACY OF OXYPERTINE, DIAZEPAM AND PLACEBO IN ANXIETY.	100538 13-10
EVALUATION OF THE ANTIPSYCHOTIC ACTIVITY OF AN INDOLE ANALOGUE, AL-1612.	100540 13-08
COMPARATIVE EVALUATION OF DIAZEPAM (VALIUM) AND PHENOBARBITAL FOR THE RELIEF OF ANXIETY RELATED SYMPTOMS IN PATIENTS HOSPITALIZED FOR ACUTE MYOCARDIAL INFARCTION.	100626 13-14
AN EVALUATION OF TOFENACINE (ELAMOL), A NEW DRUG FOR THE TREATMENT OF DEPRESSION.	102349 13-07
EVALUATION OF PYROVALERONE IN CHRONICALLY FATIGUED VOLUNTEERS.	102350 13-14
CLINICAL AND ERGOTHERAPEUTIC EVALUATION OF FLUSPIRILENE (R-6218), A LONG-ACTING INJECTABLE NEUROLEPTIC, IN CHRONIC PSYCHOTIC PATIENTS.	102577 13-07
A SIMPLE QUANTITATIVE METHOD FOR THE EVALUATION OF PHYSICAL DEPENDENCE LIABILITY OF MORPHINE IN MICE.	102885 13-04
EVALUATION OF CLINICAL EFFICACY OF PIMOZIDE AS MAINTENANCE THERAPY IN CHRONIC SCHIZOPHRENIC PATIENTS.	103326 13-07
EMOTION AND SKIN: A DOUBLE-BLIND EVALUATION OF PSYCHOTROPIC AGENTS.	103630 13-13
CLINICAL POSSIBILITIES OF THE EVALUATION OF PHARMACOTHERAPY, INVESTIGATED BY TESTING THE EFFECTIVENESS OF THE NEUROLEPTIC DRUG PIMOZIDE.	104226 13-07
AN EVALUATION OF THE CONTRIBUTION OF CHOLINERGIC MECHANISM TO THIRST.	105346 13-04
EVALUATION OF A NEW TRANQUILLIZER - WY-4036 - IN THE TREATMENT OF ANXIETY.	107593 13-10
EVALUATION OF PSYCHOTROPIC DRUGS IN GENERAL PRACTICE.	111660 13-14
METIAPINE: A DOUBLE-BLIND EVALUATION IN CHRONIC SCHIZOPHRENIC PATIENTS.	117022 13-08
EVALUATION OF THE CLINICAL ACTION OF PIMOZIDE.	118129 13-08
ATTEMPT TO ADMINISTER VECTOR CARDIOGRAPHY IN SCHIZOPHRENIA IN AN EVALUATION OF THE QRS COMPLEX.	118205 13-08
CLINICAL EVALUATION OF DIBENZAZEPINE (NOVERIL) IN THE TREATMENT OF DEPRESSIVE SYNDROMES.	118209 13-09
QUANTITATIVE PHARMACO-ELECTROENCEPHALOGRAPHY IN EARLY EVALUATION OF PSYCHOTROPIC DRUGS.	118946 13-16
EVALUATION OF THE THERAPEUTIC SIGNIFICANCE OF THE PREPARATION IB-503 ON THE BASIS OF PERSONAL CLINICAL EXPERIENCE OVER A PERIOD OF FOUR YEARS.	122947 13-09
<b>EVENTS</b>	
MEDICATION, ANXIETY REDUCTION AND PATIENT REPORT OF SIGNIFICANT LIFE SITUATION EVENTS.	092456 13-10
AGGRESSION AND ASSOCIATED NEURAL EVENTS IN CATS: EFFECTS OF PARA-CHLOROPHENYLALANINE COMPARED WITH ALCOHOL.	101287 13-03

# Subject Index

# Psychopharmacology Abstracts

## EVIDENCE

- FURTHER STUDIES ON THE NATURE OF PERSISTENT RESERPINE BINDING; EVIDENCE FOR REVERSIBLE AND IRREVERSIBLE BINDING. 086820 13-03
- SLOW SYNAPTIC EXCITATION; EVIDENCE FOR SYNAPTIC INACTIVATION OF POTASSIUM CONDUCTANCE (UNPUBLISHED PAPER). 094923 13-03
- BEHAVIORAL EVIDENCE FOR TWO TYPES OF CHOLINERGIC RECEPTORS IN THE CNS. 099646 13-04
- EVIDENCE FOR INHIBITION BY BRAIN SEROTONIN OF MOUSE KILLING BEHAVIOR IN RATS. 099794 13-04
- EVIDENCE FOR STATE DEPENDENT LEARNING WITH MESCALINE IN A PASSIVE AVOIDANCE TASK. 105079 13-04
- PRELIMINARY EVIDENCE THAT SYROSLINGOPINE PRODUCES A SELECTIVE DEPLETION OF CENTRAL STORES OF SYMPATHOMIMETIC AMINES. 106422 13-03
- SOME BRONCHOCONSTRICTING AND BRONCHODILATING RESPONSES OF HUMAN ISOLATED BRONCHI: EVIDENCE FOR THE EXISTENCE OF ALPHA-ADRENORECEPTORS. 106429 13-13
- THE APOMORPHINE ANTAGONISM TEST IN DOGS: EXPERIMENTAL EVIDENCE AND CRITICAL CONSIDERATIONS ON SPECIFIC METHODOLOGICAL CRITERIA. 121221 13-06
- EVIDENCE FOR A NEW TYPE OF DOPAMINE RECEPTOR STIMULATING AGENT. 122547 13-03

## EVOKED

- EFFECTS OF TWO TETRAHYDROCANNABINOLS AND OF PENTOBARBITAL ON CORTICO-CORTICAL EVOKED RESPONSES IN THE SQUIRREL MONKEY. 082720 13-03
- THE INFLUENCE OF HYPNOTICS AND TRANQUILLIZERS ON SOME EVOKED CORTICAL POTENTIALS. 082760 13-03
- CHANGES IN SOMATOSENSORY EVOKED POTENTIALS DURING FLUPHENAZINE TREATMENT. 087001 13-13
- THE EFFECTS OF MORPHINE, PENTOBARBITAL AND CHLORPROMAZINE ON BIOELECTRICAL POTENTIALS EVOKED IN THE BRAIN STEM OF THE CAT BY ELECTRICAL STIMULATION OF THE GINGIVA AND TOOTH PULP. 094254 13-05
- SOMATOSENSORY EVOKED RESPONSES IN THE MESENCEPHALIC CENTRAL GRAY MATTER OF THE RAT. 097446 13-03
- EEG, EVOKED POTENTIAL, AND CONTINGENT NEGATIVE VARIATIONS WITH LITHIUM IN MANIAC DEPRESSIVE DISEASE. 097458 13-09
- SOMATOSENSORY EVOKED POTENTIAL CHANGES DURING THIOXIXENE TREATMENT IN SCHIZOPHRENIC PATIENTS. 105008 13-08
- THE EFFECTS OF NITROUS OXIDE ON THE AUDITORY EVOKED RESPONSE IN A REACTION TIME TASK. 105011 13-14
- EVOKED POTENTIAL AND SINGLE UNIT STUDIES OF NEURAL MECHANISMS UNDERLYING THE EFFECTS OF REPETITIVE STIMULATION IN THE AUDITORY PATHWAY. 108671 13-03
- EFFECTS OF MESCALINE AND NEMBUTAL ON CORTICAL AND RETINAL LIGHT EVOKED RESPONSES IN THE CAT. (PH.D. DISSERTATION). 109622 13-03
- EFFECT OF NEUROTROPIC DRUGS ON CORTICAL EVOKED POTENTIALS. 113480 13-03
- EFFECT OF TRIPHENASINE ON CONDITIONED REFLEX PROCESSES ACCORDING TO PARAMETERS OF EVOKED POTENTIALS. 113749 13-04
- SOMATOSENSORY EVOKED POTENTIAL CHANGES DURING THIOXIXENE TREATMENT IN SCHIZOPHRENIC PATIENTS. 125568 13-08
- LITHIUM EFFECTS ON THE EEG AND SOMATOSENSORY EVOKED RESPONSE IN RELATION TO SODIUM METABOLISM. 125569 13-13
- EFFECTS ON THE AMYGDALO-HIPPOCAMPAL EVOKED POTENTIAL IN THE CAT OF FOUR BENZODIAZEPINES AND SOME OTHER PSYCHOTROPIC DRUGS. 125960 13-03

## EVOLUTION

- NEUROPHARMACOLOGY AND EXPERIMENTAL PSYCHIATRY: THE EVOLUTION OF A PROJECT - A PROGRESS REPORT. 077427 13-17
- LONG-TERM EVOLUTION OF THE SIDE-EFFECT LENS OPACITIES INDUCED BY CHLORPROMAZINE PROLONGED THERAPY. 089189 13-15

## EWES

- ACCEPTANCE OF ORGAN LAMBS BY TRANQUILIZED EWES (OVIS-ARIES). 100048 13-04

## EXAMINATION

- AN EXAMINATION OF THE EFFECT OF CENTRAL NERVOUS SYSTEM STIMULANT AND ANTIDEPRESSANT DRUGS ON OPEN-FIELD PERFORMANCE IN RATS. 078937 13-04

## EXAMINATIONS

- CHROMOSOME EXAMINATIONS IN PATIENTS ON LITHIUM CARBONATE. 090765 13-15

## EXCESS

- EFFECTS OF EXCESS PHENYLALANINE ON IN VITRO AND IN VIVO RNA AND PROTEIN SYNTHESIS AND POLYRIBOSOME LEVELS IN BRAINS OF MICE. 086806 13-03

## EXCHANGE

- EFFECTS OF IMIPRAMINE ON THE NA-ION DEPENDENT EXCHANGE AND RETENTION OF GAMMA-AMINOBUTYRIC ACID BY MOUSE BRAIN SUBCELLULAR PARTICLES. 077725 13-03

## EXCITABILITY

- BRAIN EXCITABILITY AND BEHAVIORAL REACTIVITY IN MONKEYS UNDER MEPROBAMATE. 106145 13-04

## EXCITATION

- SLOW SYNAPTIC EXCITATION; EVIDENCE FOR SYNAPTIC INACTIVATION OF POTASSIUM CONDUCTANCE (UNPUBLISHED PAPER). 094923 13-03

## EXCITATORY

- THE EFFECTS OF EXCITATORY AND INHIBITORY AMINO ACIDS ON THE METABOLISM OF ENDOGENOUS BRAIN AMINO ACIDS IN THE NEMBUTALIZED MOUSE. 099266 13-03
- EXCITATORY ACTIONS OF GABA AND OF INHIBITORY NEURONS. 125398 13-03

## EXCITED

- SENSITIVITY TO HALOPERIDOL OF CAUDATE NEURONES EXCITED BY NIGRAL STIMULATION. 089026 13-03
- A COMPARISON OF LITHIUM CARBONATE AND CHLORPROMAZINE IN THE TREATMENT OF EXCITED SCHIZO-AFFECTIVES. (UNPUBLISHED PAPER). 106066 13-08

## EXCITEMENT

- THE MANAGEMENT OF EXCITEMENT IN A GENERAL HOSPITAL PSYCHIATRIC WARD BY HIGH DOSAGE HALOPERIDOL. 115398 13-14

## EXCRETION

- EFFECTS OF THIOPROPERAZINE ON THE URINARY EXCRETION AND CONCENTRATION IN THE CEREBROSPINAL FLUID OF 5-HYDROXYINDOLEACETIC ACID IN THE CHRONIC SCHIZOPHRENIC. 074835 13-13
- A NOTE ON THE INFLUENCE OF DIET IN WEST AFRICA ON URINARY PH AND EXCRETION OF AMPHETAMINE IN MAN. 077904 13-13
- THE METABOLISM AND EXCRETION OF DELTA9-TETRAHYDROCANNABINOL IN THE RAT. 082733 13-03
- CHLORPROMAZINE. CONCENTRATIONS IN PLASMA, EXCRETION IN URINE AND DURATION OF EFFECT. 086531 13-13
- URINARY EXCRETION OF CHLORPROMAZINE AND CHLORPROMAZINE SULFOXIDE IN FOUR PATIENTS ON DIFFERENT DAYS. 086576 13-13
- EXCRETION AND BIOTRANSFORMATION OF THE ENANTHATE ESTER OF FLUPHENAZINE-14C BY THE DOG. 086578 13-03
- RENAL LITHIUM ELIMINATION IN MANIC-DEPRESSIVE PATIENTS - INITIAL EXCRETION AND CLEARANCE. 087000 13-13
- IMPAIRED BILIARY EXCRETION OF PHENOL 3,6-DIBROMOPHTHALEIN DISULFONATE IN NEONATAL GUINEA-PIGS. 089284 13-03
- METABOLISM, DISTRIBUTION AND EXCRETION OF FLUPENTHIXOL DECANOATE IN DOGS AND RATS. 098615 13-03
- UPTAKE, METABOLISM AND EXCRETION OF DESMETHYLIMIPRAMINE AND ITS METABOLITES IN THE ISOLATED PERFUSED RAT LIVER. 098616 13-03
- AMPHETAMINE WITHDRAWAL. DEPRESSION AND M.H.P.G. EXCRETION. 098921 13-15
- PLASMA MAGNESIUM CONCENTRATION AND URINARY MAGNESIUM EXCRETION IN RATS TREATED CHRONICALLY WITH MORPHINE. 099801 13-03
- URINARY EXCRETION OF PERPHENAZINE AND ITS SULFOXIDE DURING ADMINISTRATION IN ORAL AND LONG-ACTING INJECTABLE FORM. 102185 13-15

- THE EFFECT OF RESERPINE AND NORTRIPTYLINE ON THE EXCRETION OF 17-HYDROXYSTEROIDS. 106095 13-13
- ADMINISTRATION OF TWO OF MORE RELATED DRUGS TO INVESTIGATE THE EFFECT OF MOLECULAR MODIFICATION AND FORMULATION ON DRUG ABSORPTION, METABOLISM AND EXCRETION. 106908 13-13
- ON THE URINARY EXCRETION OF NITRAZEPAM AND ITS METABOLITES. 117456 13-16
- THE EXCRETION OF HYDROXYAMYOLOBARBITONE IN MAN AFTER ORAL ADMINISTRATION OF AMYOLOBARBITONE AND HYDROXYAMYOLOBARBITONE. 122552 13-13
- EXISTENCE**
- SOME BRONCHOCONSTRICTING AND BRONCHODILATING RESPONSES OF HUMAN ISOLATED BRONCHI: EVIDENCE FOR THE EXISTENCE OF ALPHA-ADRENORECEPTORS. 106429 13-13
- EXOGENOUS**
- THE SUBCELLULAR DISTRIBUTION OF ENDOGENOUS AND EXOGENOUS SEROTONIN IN BRAIN TISSUE: COMPARISON OF SYNAPTOSOMES STORING SEROTONIN, NOREPINEPHRINE, AND GAMMA-AMINOBUTYRIC ACID. 077855 13-03
- PARTIAL ANTAGONISM BY EXOGENOUS CALCIUM OF THE DEPRESSANT EFFECT OF RESERPINE IN RAT SHUTTLE-BOX BEHAVIOR. 117580 13-03
- EXOGENOUS PSYCHOSIS FOLLOWING ACCIDENTAL HALOPERIDOL INTOXICATION. 118217 13-15
- EXPERIENCE**
- CLINICAL EXPERIENCE WITH PIMOZIDE. 074815 13-07
- EXPERIENCE WITH LITHIUM PROPHYLAXIS OF RECURRENT EMOTIONAL DISORDERS IN A PSYCHIATRIC OUTPATIENTS CLINIC. 089129 13-17
- THE PSYCHEDELIC MYSTICAL EXPERIENCE IN THE HUMAN ENCOUNTER WITH DEATH. 089185 13-12
- A PHYSICIANS RESPONSE TO THE PSYCHEDELIC EXPERIENCE IN THE DEATH ENCOUNTER. 089186 13-12
- OUR EXPERIENCE WITH THIORIDAZINE IN DEPRESSIVE STATES. 092154 13-09
- THE USE OF DRUGS IN THE SEARCH FOR A HUMAN APHRODISIAC EXPERIENCE. 094609 13-17
- CLINICAL EXPERIENCE WITH THIORIDAZINE (MELLERIL) IN THE TREATMENT OF ANXIETY AND DEPRESSION ASSOCIATED WITH EMOTIONAL DISORDERS IN GENERAL PRACTICE. 097556 13-10
- CLINICAL EXPERIENCE WITH NOXITILINE, A NEW ANTIDEPRESSIVE AGENT. 098625 13-07
- OUR EXPERIENCE WITH TREATMENT OF HEPATOLENTICULAR DEGENERATION WITH PENICILLAMINE. 101418 13-11
- EXPERIMENTAL AND CLINICAL EXPERIENCE WITH ENCEPHABOL THERAPY IN GERONTOPSYCHIATRY. 101939 13-14
- EXPERIENCE WITH COMPLEX THERAPY FOR PATIENTS WITH THE PERIOD FORM OF SCHIZOPHRENIA. 102653 13-08
- EXPERIENCE WITH TREATMENT OF INDOLENT SCHIZOPHRENIA WITH THE CENESTHOPATHIC HYPOCHONDRIACAL SYNDROME. 102669 13-08
- EXPERIENCE WITH ADMINISTRATION OF NOYLEPTIL FOR THE TREATMENT OF EMOTIONAL DISORDERS AND BEHAVIORAL DISTURBANCES IN EPILEPTIC PATIENTS. 102795 13-11
- EXPERIENCE WITH THE USE OF NIAMID IN PSYCHIATRIC PRACTICE. 102797 13-17
- MODIFICATION OF CONFLICT BEHAVIOR BY PRIOR EXPERIENCE: EFFECTS OF SCHEDULING AND PENTOBARBITAL. 103652 13-04
- CROSS-GENERATIONAL EFFECTS RESULTING FROM AN EARLY MATERNAL CHRONIC DRUG EXPERIENCE. 104173 13-04
- MODIFICATION OF CONFLICT BEHAVIOR BY PRIOR EXPERIENCE: EFFECTS OF TRAINING AND MORPHINE. 104325 13-04
- RUBIDIUM CHLORIDE INGESTION BY VOLUNTEER SUBJECTS: INITIAL EXPERIENCE. 104438 13-07
- CLINICAL EXPERIENCE WITH FLUSPIRILENE IN PSYCHOSES. 105828 13-09
- THERAPEUTIC EXPERIENCE WITH CHLORIMIPRAMINE INJECTIONS. 105836 13-09
- OUR EXPERIENCE WITH CLOTHIAPIN IN SCHIZOPHRENIA. 105923 13-08
- CLINICAL EXPERIENCE WITH CLOTHIAPIN (ENTUMIN) IN SCHIZOPHRENIC PSYCHOSES. 105924 13-08
- CLINICAL EXPERIENCE WITH PROPHYLACTIC LITHIUM THERAPY OF MANIC-DEPRESSIVE PSYCHOSES. 105928 13-09
- CLINICAL EXPERIENCE WITH FLUPENTHIXOL IN THE TREATMENT OF CHRONIC SCHIZOPHRENIA. 105930 13-08
- FURTHER EXPERIENCE WITH FORREST TESTS IN OBSTETRICS. 106091 13-16
- FURTHER EXPERIENCE IN THE TREATMENT OF DEPRESSIVE STATES WITH A COMBINATION OF PSYCHOTONE AND ELECTROSHOCK THERAPY. 112443 13-09
- EVALUATION OF THE THERAPEUTIC SIGNIFICANCE OF THE PREPARATION IB-503 ON THE BASIS OF PERSONAL CLINICAL EXPERIENCE OVER A PERIOD OF FOUR YEARS. 122947 13-09
- EXPERIENCE WITH A NEW PSYCHOTROPIC DRUG, OXAZOLAM, IN TREATMENT OF ANXIETY NEUROSES. 123050 13-10
- EXPERIMENT**
- RESULTS OF A DOUBLE-BLIND EXPERIMENT WITH HF-1954 (8-CHLORO-11-(4-METHYL-1-PIPERAZINYL) 5H DIBENZODIAZEPINE) COMPARED WITH LEVOMEPRAMAZINE. 099032 13-08
- EXPERIMENTAL**
- NEUROPHARMACOLOGY AND EXPERIMENTAL PSYCHIATRY: THE EVOLUTION OF A PROJECT - A PROGRESS REPORT. 077427 13-17
- BEHAVIORAL RESEARCH AND EXPERIMENTAL PSYCHOSIS. 083378 13-12
- CLINICAL AND EXPERIMENTAL PSYCHOLOGICAL INVESTIGATIONS OF THE EFFECT OF ANTIANDROGEN CYPROTHERONE ACETATE IN SLIGHTLY IRRESPONSIBLE AND GROSSLY IRRESPONSIBLE SEXUAL DELINQUENTS. 088693 13-11
- ALTERED STATES OF CONSCIOUSNESS: AN EXPERIMENTAL CASE STUDY. 090690 13-12
- EXPERIMENTAL WITHDRAWAL OF LITHIUM IN RECOVERED MANIC-DEPRESSIVE PATIENTS: A REPORT OF FIVE CASES. 092514 13-09
- AN EXPERIMENTAL ANALYSIS OF THE PLACEBO EFFECT. 094921 13-06
- PROLIXIN ENANTHATE AND THORAZINE STELAZINE REGIMENS IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS. AN EXPERIMENTAL EVALUATION. 096017 13-08
- RED NUCLEUS FAST ACTIVITY AND SIGNS OF PARADOXICAL SLEEP APPEARING DURING THE EXTINCTION OF EXPERIMENTAL SEIZURES. 098151 13-03
- ACUTE ADVERSE REACTIONS TO LSD IN CLINICAL AND EXPERIMENTAL USE IN THE UNITED KINGDOM. 099307 13-12
- PSYCHIATRY AND IMMUNOLOGY: CONTRIBUTION OF THE EXPERIMENTAL STUDY OF THE IMMUNODEPRESSANT EFFECT OF A CORRECTOR OF EXTRAPYRAMIDAL SYNDROMES INDUCED BY NEUROLEPTICS: ETHYLBENZATROPINE. 100604 13-11
- EXPERIMENTAL AND CLINICAL EXPERIENCE WITH ENCEPHABOL THERAPY IN GERONTOPSYCHIATRY. 101939 13-14
- CORRELATION BETWEEN THE EXPERIMENTAL DATA FROM ANIMAL STUDIES AND THERAPEUTICAL EFFECTS OF ANTIDEPRESSANT DRUGS. 104435 13-09
- AN EXPERIMENTAL AND CLINICAL CONTRIBUTION TO INTERACTION OF ALCOHOL AND DIAZEPAM. 105906 13-03
- EXPERIMENTAL AND CLINICAL INVESTIGATION OF THE NEW PSYCHOSTIMULATOR SYDNOCARB. 107728 13-13
- EXPERIMENTAL CHARACTERISTICS OF SOME MANIFESTATIONS COMMON TO THE WITHDRAWAL SYNDROME FOLLOWING DISCONTINUANCE OF LONG-TERM ADMINISTRATION OF DIAZEPAM AND CHLORDIAZEPOXIDE. 111134 13-04
- THE SAFETY TEST OF 10-CHLORO-11B-(2-CHLOROPHENYL) 2,3,5,6,7,11B-HEXAHYDROBENZODI(6,7) 1,4 DIAZEPINOXAZOLONE (CS-370) - II. EFFECT OF CS-370 UPON THE DEVELOPMENT OF PRE-NATAL AND POST-NATAL OFFSPRINGS OF EXPERIMENTAL ANIMALS. 116154 13-03
- THE EXPERIMENTAL USE OF PSYCHEDELIC (LSD) PSYCHOTHERAPY. 116810 13-11
- USE OF EXPERIMENTAL METHODS TO DETERMINE SHIFTS IN THE STATE OF SCHIZOPHRENIC PATIENTS DURING TREATMENT. 118010 13-08

## Subject Index

- THE APOMORPHINE ANTAGONISM TEST IN DOGS: EXPERIMENTAL EVIDENCE AND CRITICAL CONSIDERATIONS ON SPECIFIC METHODOLOGICAL CRITERIA. 121221 13-06
- EXPERIMENTALLY**  
THE INFLUENCE OF 1,5 DICAFFEYLQUINIC ACID ON SERUM LIPIDS IN THE EXPERIMENTALLY ALCOHOLISED RAT. 100334 13-03  
ATTEMPTED THERAPY OF DEPRESSIVE PSYCHOSIS BY MEANS OF EXPERIMENTALLY INDUCED SKIN ALLERGIES. 126102 13-09
- EXPERIMENTS**  
EXPERIMENTS WITH UCB-6215, A DRUG WHICH ENHANCES ACQUISITION IN RATS: ITS EFFECTS COMPARED WITH THOSE OF METHAMPHETAMINE. 107159 13-04
- EXPLANATION**  
CHANGES IN NOREPINEPHRINE TURNOVER IN RAT BRAIN DURING CHRONIC ADMINISTRATION OF IMIPRAMINE AND PROTRIPTYLINE: A POSSIBLE EXPLANATION FOR THE DELAY IN ONSET OF CLINICAL ANTIDEPRESSANT EFFECTS. 086251 13-03
- EXPLANATORY**  
SEX DIFFERENCES IN THE USE OF MOOD MODIFYING DRUGS: AN EXPLANATORY MODEL. 100851 13-14
- EXPLORATION**  
EXPLORATION OF THE ANTIDEPRESSANT POTENTIAL OF L-DOPA. 104142 13-04  
EXPLORATION OF CERTAIN BEHAVIORAL PATTERNS INDUCED BY PSYCHOACTIVE AGENTS IN THE RAT. 120964 13-04
- EXPLORATORY**  
EFFECT OF TETRABENAZINE AND ALPHA-METHYL-M-TYROSINE ON EXPLORATORY ACTIVITY AND BRAIN CATECHOLAMINES IN RATS. 077425 13-04  
THE DIFFERENTIAL EFFECTS OF METHAMPHETAMINE UPON VISUAL EXPLORATORY BEHAVIOR AND SPONTANEOUS MOTOR ACTIVITY IN RHESUS MONKEYS (MACACA-MULATTA). 103040 13-04  
EXPLORATORY BEHAVIOR IN CHRONIC DISULFOTON POISONING IN MICE. 104136 13-04  
MEASUREMENT OF PHARMACOLOGICAL DEPRESSION OF EXPLORATORY ACTIVITY IN MICE: A CONTRIBUTION TO THE PROBLEM OF TIME ECONOMY AND SENSITIVITY. 104704 13-06  
FURTHER ASPECTS OF THE EXPLORATORY BEHAVIOUR IN AGGRESSIVE MICE. 104803 13-04  
EXTINCTION OF FEAR I: EFFECTS OF AMYLOBARBITONE AND DEXAMPHETAMINE GIVEN SEPARATELY AND IN COMBINATION ON FEAR AND EXPLORATORY BEHAVIOUR IN RATS. 104827 13-04  
EXTINCTION OF FEAR II: EFFECTS OF CHLORDIAZEPOXIDE AND CHLORPROMAZINE ON FEAR AND EXPLORATORY BEHAVIOUR IN RATS. 110177 13-04
- EXPOSED**  
EFFECTS OF MONOAMINE OXIDASE INHIBITORS AND RESERPINE ON BRAIN AMINES IN ALTITUDE EXPOSED RATS. 085727 13-13  
FATTY ACIDS OF LIVER MITOCHONDRIAL AND MICROSOMAL LIPIDS IN THE RAT EXPOSED TO PHENOTHIAZINE DERIVATIVES. 102805 13-03
- EXPOSURE**  
LOW LEVEL CARBON MONOXIDE EXPOSURE AND HUMAN PSYCHOMOTOR PERFORMANCE. 078163 13-14  
EFFECTS OF METHAMPHETAMINE AND SHOCK DURATION DURING INESCAPABLE SHOCK EXPOSURE ON SUBSEQUENT ACTIVE AND PASSIVE AVOIDANCE. 102549 13-04
- EXPRESSION**  
STIMULUS SIGNIFICANCE AND CHLORPROMAZINE EFFECTS ON THE EXPRESSION OF AVOIDANCE LEARNING IN MICE. 086900 13-04
- EXPRESSIVE**  
CHARACTEROPATHIC CHANGES AND EXPRESSIVE APHASIA IN A CHILD WITH CONGENITAL AGENESIS OF THE SEPTUM PELLUCIDUM. 122951 13-11
- EXTENSOR**  
EFFECTS OF SOME NARCOTIC ANALGESICS AND RELATED COMPOUNDS UPON THE EXTENSOR MONOSYNAPTIC REFLEX INHIBITION FROM CUTANEOUS NERVE AND HIGH THRESHOLD MUSCLE AFFERENTS. 125324 13-03
- EXTINCTION**  
AMOBARBITAL VS SALINE EXTINCTION FOLLOWING DIFFERENT MAGNITUDES OF CONSISTENT REINFORCEMENT. 078449 13-04

## Psychopharmacology Abstracts

- EFFECT OF ACTH ON EXTINCTION OF REWARDED BEHAVIOUR IS BLOCKED BY PREVIOUS ADMINISTRATION OF ACTH. 080109 13-04
- A BARBITURATE LIKE EFFECT OF ADRENOCORTICOTROPIC HORMONE ON THE PARTIAL REINFORCEMENT ACQUISITION AND EXTINCTION EFFECTS. 082858 13-04
- SODIUM AMYLOBARBITONE, THE PARTIAL REINFORCEMENT EXTINCTION EFFECT, AND THE FRUSTRATION EFFECT IN THE DOUBLE RUNWAY. 082859 13-04
- DISSOCIATIVE EFFECTS OF DRUGS ON THE EXTINCTION OF CONDITIONED SUPPRESSION IN THE RAT. 086772 13-04
- RHE EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CHLORPROMAZINE ON THE ACQUISITION AND EXTINCTION OF POSITIVELY REINFORCED OPERANT RESPONSES. 088679 13-04
- RED NUCLEUS FAST ACTIVITY AND SIGNS OF PARADOXICAL SLEEP APPEARING DURING THE EXTINCTION OF EXPERIMENTAL SEIZURES. 098151 13-03
- INCREASED RESISTANCE TO EXTINCTION OF AN AVOIDANCE RESPONSE IN RATS FOLLOWING THE ADMINISTRATION OF HASHISH RESIN. 103951 13-04
- ADRENOCORTICAL FUNCTION AND SEX DIFFERENCES IN ACQUISITION AND EXTINCTION OF ACTIVE AVOIDANCE BEHAVIOR IN THE RAT. 104457 13-04
- EXTINCTION OF FEAR I: EFFECTS OF AMYLOBARBITONE AND DEXAMPHETAMINE GIVEN SEPARATELY AND IN COMBINATION ON FEAR AND EXPLORATORY BEHAVIOUR IN RATS. 104827 13-04
- ANALYSIS OF THE ACQUISITION AND EXTINCTION OF FOOD REINFORCED BEHAVIOR IN RATS AFTER THE ADMINISTRATION OF CHLORPROMAZINE. 105012 13-04
- JOINT EFFECTS OF MEDIAL SEPTAL LESIONS AND AMYLOBARBITONE INJECTIONS ON RESISTANCE TO EXTINCTION IN THE RAT. 106392 13-04
- EXTINCTION OF OPERANT RESPONSES BY RATS UNDER THE EFFECTS OF CANNABIS-SATIVA EXTRACT. 110036 13-04
- EXTINCTION OF FEAR II: EFFECTS OF CHLORDIAZEPOXIDE AND CHLORPROMAZINE ON FEAR AND EXPLORATORY BEHAVIOUR IN RATS. 110177 13-04
- EXTRACEREBRAL**  
POTENTIATION OF EFFECTS OF L-DOPA ON CONDITIONED AVOIDANCE BEHAVIOR BY INHIBITION OF EXTRACEREBRAL DOPA-DECARBOXYLASE. 088685 13-03
- EXTRACT**  
THE EFFECT OF HASHISH EXTRACT ON THE NOREPINEPHRINE IN RABBIT BRAIN. 098557 13-03  
EFFECT OF AN RNA RICH EXTRACT ON ACQUISITION OF A ONE-WAY AVOIDANCE RESPONSE IN RATS. 099686 13-04  
THE EFFECTS OF A MARIJUANA EXTRACT ON THE GENERAL MOTOR ACTIVITY OF THE SQUIRREL MONKEY. 105077 13-04  
EFFECTS OF MARIJUANA EXTRACT ON THE OPERANT BEHAVIOR OF CHIMPANZEES. 107628 13-04  
EXTINCTION OF OPERANT RESPONSES BY RATS UNDER THE EFFECTS OF CANNABIS-SATIVA EXTRACT. 110036 13-04
- EXTRACTS**  
UNSUCCESSFUL ATTEMPTS TO TRANSFER MORPHINE TOLERANCE AND PASSIVE AVOIDANCE BY BRAIN EXTRACTS. 100938 13-04
- EXTRAPYRAMIDAL**  
NEUTRALIZATION OF EXTRAPYRAMIDAL SIDE-EFFECTS WITH METHIXENE. 095156 13-08  
EXTRAPYRAMIDAL DISORDERS AFTER PROLONGED PHENOTHIAZINE THERAPY. 099120 13-15  
PSYCHIATRY AND IMMUNOLOGY: CONTRIBUTION OF THE EXPERIMENTAL STUDY OF THE IMMUNODEPRESSANT EFFECT OF A CORRECTOR OF EXTRAPYRAMIDAL SYNDROMES INDUCED BY NEUROLEPTICS: ETHYLBENZATROPINE. 100604 13-11  
EXTRAPYRAMIDAL AFFLICTION IN TWO YOUNG BROTHERS; REMARKABLE EFFECTS OF TREATMENT WITH L-DOPA. 101377 13-11  
A STUDY OF THE LEVOMEPROMAZINE THIOPROPERAZINE ANTAGONISM ON THE EXTRAPYRAMIDAL SYSTEM. 105674 13-08  
A QUANTITATIVE STUDY OF NEUROLEPTIC INDUCED EXTRAPYRAMIDAL SYMPTOMS AND THEIR RESPONSE TO DEXTETIMIDE, A POTENT AND LONG-ACTING ANTIPARKINSONIAN AGENT. 115396 13-13

- EXTRAPYRAMIDAL MOTORIC SYMPTOMS AND EEG CHANGES AFTER APPLICATION OF PHENOTHIAZINE DERIVATIVES. 123602 13-15
- EYE**
- LONG-TERM TREATMENT WITH NEUROLEPTIC DRUGS AND EYE OPACITIES. 079832 13-14
- EFFECT OF BENZODIAZEPINES UPON SACCADIC EYE MOVEMENTS IN MAN. 104368 13-13
- THE PHARMACOLOGY OF RAPID EYE MOVEMENT SLEEP. 108524 13-14
- EYE CHANGES IN CONNECTION WITH NEUROLEPTIC TREATMENT ESPECIALLY CONCERNING PHENOTHIAZINES AND THIOXANTHINES. 115395 13-13
- FACILITATED**
- FACILITATED AGGRESSION IN THE RAT FOLLOWING 6-HYDROXYDOPAMINE ADMINISTRATION. (UNPUBLISHED PAPER). 106070 13-04
- FACILITATING**
- EFFECTS OF ALPHA-METHYLTYROSINE AND ADRENERGIC BLOCKING AGENTS ON THE FACILITATING ACTION OF AMPHETAMINE AND NICOTINE ON LEARNING IN RATS. 104373 13-04
- FACILITATING EFFECTS OF SOME CHLORPROMAZINE D-AMPHETAMINE MIXTURES ON AVOIDANCE LEARNING. 124107 13-04
- FACILITATION**
- FACILITATION AND IMPAIRMENT OF AVOIDANCE RESPONDING BY PHENOBARBITAL SODIUM, CHLORDIAZEPOXIDE AND DIAZEPAM - THE ROLE OF PERFORMANCE BASE LINES. 082881 13-04
- FACILITATION OR IMPAIRMENT OF LEARNING BY D-AMPHETAMINE AS A FUNCTION OF STIMULI. 104795 13-04
- TWENTY-FOUR-HOUR PROACTIVE FACILITATION OF AVOIDANCE AND DISCRIMINATION LEARNING IN RATS BY D-AMPHETAMINE. 106786 13-04
- STUDIES ON THE MECHANISM OF AVOIDANCE FACILITATION BY NICOTINE. 112314 13-04
- FACILITATION OF NORADRENALINE UPTAKE BY LITHIUM. 119016 13-03
- FACILITATORY**
- FACILITATORY EFFECTS OF AMPHETAMINE ON LEARNING AND RECALL OF AN AVOIDANCE RESPONSE IN RATS. 107943 13-04
- FAILS**
- PILLS FOR LEARNING: DISPUTE FAILS TO HALT USE OF DRUGS TO CALM HYPERACTIVE CHILDREN. 078100 13-17
- PHYSICAL DEPENDENCE ON MORPHINE FAILS TO INCREASE SEROTONIN TURNOVER RATE IN RAT BRAIN. 088994 13-03
- FAILURE**
- RESPIRATORY DEPRESSION CAUSED BY NITRAZEPAM IN PATIENTS WITH RESPIRATORY FAILURE. 100495 13-15
- FAILURE TO AFFECT TISSUE RESERPINE CONCENTRATIONS BY ALTERATION OF ADRENERGIC NERVE ACTIVITY. 108399 13-03
- SEDATIVE DRUGS IN RESPIRATORY FAILURE. 110043 13-15
- FALL**
- THE CENTRALLY INDUCED FALL IN BLOOD PRESSURE AFTER THE INFUSION OF AMPHETAMINE AND RELATED DRUGS INTO THE VERTEBRAL ARTERY OF THE CAT. 106911 13-03
- FAMILIAR**
- SOME LESS FAMILIAR DRUGS OF ABUSE. 109014 13-13
- FAMILY**
- A VITAMIN-B3 DEPENDENT FAMILY. 082736 13-17
- FAST**
- RED NUCLEUS FAST ACTIVITY AND SIGNS OF PARADOXICAL SLEEP APPEARING DURING THE EXTINCTION OF EXPERIMENTAL SEIZURES. 098151 13-03
- FATAL**
- IMIPRAMINE TISSUE REPARTITION BREAKDOWN IN MAN AS RELATED TO SIX CASES OF FATAL INTOXICATION. 100406 13-15
- ECG CHANGES IN FATAL IMIPRAMINE (TOFRANIL) INTOXICATION. 105387 13-15
- ROLE OF BRAIN MONOAMINES IN THE FATAL HYPERTHERMIA INDUCED BY PETHIDINE OR IMIPRAMINE IN RABBITS PRETREATED WITH PARGYLINE. 109197 13-03
- DETERMINATION OF AMITRIPTYLINE AND METABOLITES IN VARIOUS ORGANS AFTER FATAL POISONING. 117457 13-15
- NEAR FATAL REACTION TO INGESTION OF THE HALLUCINOGENIC DRUG MDA. 125427 13-15
- FATE**
- METABOLIC FATE OF AMPHETAMINE IN THE CAT DURING DEVELOPMENT OF TOLERANCE. 077990 13-03
- THE METABOLIC FATE OF PENTYLENETETRAZOL IN THE RAT. 082765 13-03
- THE FATE OF 2,5 DIMETHOXY-4-METHYLAMPHETAMINE (STP,DOM) IN MONKEY AND RAT BRAINS. 086148 13-03
- BIOLOGICAL DISPOSITION AND METABOLIC FATE OF FLUPHEMAZINE-14C IN THE DOG AND RHESUS MONKEY. 086580 13-03
- METABOLISM OF THE ANTICONVULSANT 10,11-DIHYDRO-5H-DIBENZO(A,D) CYCLOHEPTENE-5-CARBOXAMIDE - I. METABOLIC FATE OF (14C)CYHEPTAMIDE IN ANIMALS AND MAN. 102735 13-13
- AUTORADIOGRAPHIC STUDY OF THE FATE OF DIAZEPAM-C14 IN THE MONKEY BRAIN. 106147 13-03
- METABOLIC FATE OF CANNABINOIDS IN RABBIT AND RAT. 123262 13-03
- FATIGUED**
- EVALUATION OF PYROVALERONE IN CHRONICALLY FATIGUED VOLUNTEERS. 102350 13-14
- FATTY**
- ENHANCEMENT OF FATTY ACID OXIDATION AND MEDIUM CHAIN FATTY ACYL COENZYME A SYNTHETASE BY ADENINE NUCLEOTIDES IN RAT HEART HOMOGENATES. 089434 13-03
- GLUCOSE, INSULIN, AND FREE FATTY ACID METABOLISM IN PARKINSON'S DISEASE TREATED WITH LEVODOPA. 096471 13-13
- CHANGES IN FREE FATTY ACIDS OF BRAIN BY DRUG-INDUCED CONVULSIONS, ELECTROSHOCK AND ANESTHESIA. 100868 13-03
- FATTY ACIDS OF LIVER MITOCHONDRIAL AND MICROSOMAL LIPIDS IN THE RAT EXPOSED TO PHENOTHIAZINE DERIVATIVES. 102805 13-03
- FEAR**
- CUE VALUE OF DEXAMETHASONE FOR FEAR MOTIVATED BEHAVIOR. 079066 13-04
- THE EFFECTS OF A TRANQUILIZER ON THE IMMOBILITY REACTION IN CHICKENS: ADDITIONAL SUPPORT FOR THE FEAR HYPOTHESIS. 088069 13-04
- HORMONAL INFLUENCES ON FEAR MOTIVATED RESPONSES. 093112 13-14
- EFFECT OF TEMPORARY SEPTAL DYSFUNCTION ON CONDITIONING AND PERFORMANCE OF FEAR RESPONSES IN RATS. 097448 13-03
- EXTINCTION OF FEAR I: EFFECTS OF AMYLOBARBITONE AND DEXAMPHETAMINE GIVEN SEPARATELY AND IN COMBINATION ON FEAR AND EXPLORATORY BEHAVIOUR IN RATS. 104827 13-04
- EXTINCTION OF FEAR II: EFFECTS OF CHLORDIAZEPOXIDE AND CHLORPROMAZINE ON FEAR AND EXPLORATORY BEHAVIOUR IN RATS. 110177 13-04
- PHENOTHIAZINES AND THE THERAPISTS FEAR OF IDENTIFICATION. 113928 13-17
- FEBRILE**
- THE INEFFECTIVENESS OF DIPHENYLHYDANTOIN IN PREVENTING FEBRILE CONVULSIONS IN THE AGE OF GREATEST RISK, UNDER THREE YEARS. 100844 13-11
- PHENOBARBITAL AS PROPHYLAXIS FOR FEBRILE CONVULSIONS: A PRELIMINARY REPORT. 100845 13-11
- FEEDING**
- EFFECT OF FENFLURAMINE ON THE ELECTRICAL ACTIVITY OF THE HYPOTHALAMIC FEEDING CENTERS. 102391 13-03
- FEMALE**
- PROGESTERONE ESTROGEN INTERACTIONS IN THE CONTROL OF ACTIVITY WHEEL RUNNING IN THE FEMALE RAT. 086683 13-14
- NEONATAL ADMINISTRATION OF ANDROSTENEDIONE, TESTOSTERONE OR TESTOSTERONE PROPIONATE: EFFECTS ON OVULATION, SEXUAL RECEPTIVITY AND AGGRESSIVE BEHAVIOR IN FEMALE MICE. 088581 13-04
- EFFECTS OF ESTROGEN AND PROGESTERONE ON SLEEP PATTERNS OF FEMALE RATS. 095385 13-04

# Subject Index

# Psychopharmacology Abstracts

- CANNABINOID CONSTITUENTS OF MALE AND FEMALE CANNABIS-SATIVA.** 098556 13-01
- REACTIONS OF MALE FIGHTERS TO MALE AND FEMALE MICE, UNTREATED OR DEODORIZED.** 101738 13-04
- SEXUAL BEHAVIOUR AND TESTOSTERONE IN THE FEMALE RAT.** 123276 13-04
- FENFLURAMINE**
- FENFLURAMINE, A NEW ANOREXIGENIC AGENT.** 074150 13-07
- ACTION OF FENFLURAMINE ON MONOAMINE STORES OF RAT TISSUES.** 089048 13-03
- DRUGS OF DEPENDENCE THOUGHT NOT OF ABUSE: FENFLURAMINE AND IMIPRAMINE.** 092160 13-12
- FENFLURAMINE AND DREAMING.** 098772 13-15
- EFFECT OF FENFLURAMINE ON THE ELECTRICAL ACTIVITY OF THE HYPOTHALAMIC FEEDING CENTERS.** 102391 13-03
- EFFECTS OF FENFLURAMINE ON SLEEP WAKEFULNESS IN CATS.** 103947 13-04
- SOME 5-HYDROXYTRYPTAMINE-LIKE ACTIONS OF FENFLURAMINE: A COMPARISON WITH D-AMPHETAMINE AND DIETHYLPROPION.** 105413 13-04
- EKG PROFILES OF FENFLURAMINE, AMOBARBITAL AND DEXTROAMPHETAMINE IN NORMAL VOLUNTEERS.** 107630 13-16
- THE EFFECTS OF ACUTELY ADMINISTERED FENFLURAMINE ON ACTIVITY AND EATING BEHAVIOUR.** 110191 13-04
- FENFLURAMINE.** 111722 13-14
- TOXICOLOGIC STUDIES OF FENFLURAMINE.** 112001 13-05
- FERRIC**
- THE VIOLET PIGMENT OF LYSERGIC ACID ALKALOID PRODUCING CULTURES OF CLAVICEPS-PASPALI: FERRIC COMPLEX OF 2,3 DIHYDROXYBENZOIC ACID.** 100171 13-01
- FERTILIZED**
- ON THE REACTION OF FERTILIZED ECHINODERM EGGS TO NEUROPHARMACOLOGICAL DRUGS.** 105726 13-03
- FETAL**
- DRUGS AND THE FETAL HEART RATE.** 102288 13-13
- FETUS**
- METABOLISM OF CHLORPROMAZINE AND P-NITROBENZOIC ACID IN THE LIVER, INTESTINE AND KIDNEY OF THE HUMAN FETUS.** 088540 13-13
- FORMATION OF (3H)NORADRENALINE AND (3H)DOPAMINE IN THE BRAIN AND HEART OF THE RAT FETUS.** 115310 13-03
- UPTAKE AND DISTRIBUTION OF DRUGS IN THE FETUS.** 123290 13-03
- FG-5310**
- BIOCHEMICAL AND PHARMACOLOGICAL PROPERTIES OF P-AMINO-GAMMA-MORPHOLINO BUTYROPHENONE (FG-5310), A NEW SELECTIVE MAO INHIBITOR.** 123272 13-03
- A COMPARISON OF FG-5310, A NEW SELECTIVE MONOAMINE OXIDASE INHIBITOR, AND OTHER MAO INHIBITORS ON THE BLOOD PRESSURE RESPONSE TO TYRAMINE.** 123287 13-03
- FIGHTERS**
- REACTIONS OF MALE FIGHTERS TO MALE AND FEMALE MICE, UNTREATED OR DEODORIZED.** 101738 13-04
- FIGHTING**
- SUPPRESSION OF FIGHTING BEHAVIOUR IN RABBITS BY PAIRED EMERGENCE FROM ANESTHESIA.** 095364 13-04
- EFFECTS OF ANTIHISTAMINES ON ISOLATION INDUCED FIGHTING IN MICE.** 125247 13-04
- FIGURE**
- THE EFFECT OF STIMULANT DRUGS ON HUMAN FIGURE DRAWINGS IN CHILDREN WITH MINIMAL BRAIN DYSFUNCTION.** 125254 13-14
- FINE**
- THE EFFECTS OF CHLORPROMAZINE ON FINE PSYCHOMOTOR PERFORMANCE WITH A SIMULTANEOUS SECONDARY TASK IN SCHIZOPHRENICS.** 105926 13-08
- INCREASE IN FINE MOTOR CONTROL IN PARKINSON PATIENTS FOLLOWING LEVODOPA.** 108473 13-11
- FIT**
- ANTICONVULSANT DRUGS, FOLIC ACID METABOLISM, FIT FREQUENCY AND PSYCHIATRIC ILLNESS.** 093822 13-15
- FIXATED**
- THE EFFECTS OF CHOLINERGIC AGENTS UPON FIXATED BEHAVIOR.** 110186 13-04
- FIXED-RATIO**
- A SELECTIVE EFFECT OF P-CHLOROPHENYLALANINE ON FIXED-RATIO RESPONDING.** 106689 13-04
- FLASHBACKS**
- USE OF ANTI-EPILEPTIC MEDICATION IN TREATING FLASHBACKS FROM HALLUCINOGENIC DRUGS.** 102589 13-17
- FLICKER**
- EFFECT OF Mescaline AND Lysergic acid diethylamide ON FLICKER DISCRIMINATION IN THE RAT.** 088584 13-04
- THE CRITICAL FLICKER FUSION DURING THE ACTION OF DIFFERENT DRUGS: I. COFFEE AND MEPROBAMATE (INCLUDING A FULL DESCRIPTION OF THE METHOD).** 104789 13-13
- FLIGHT**
- AGGRESSION AND FLIGHT REACTIONS INDUCED BY CONTINUOUS INCREASE OF BLOOD OSMOLALITY.** 098300 13-04
- DIFFERENTIAL ACTION OF DIAZEPAM ON FLIGHT AND DEFENSE BEHAVIOR IN THE CAT.** 104808 13-04
- FLOODING**
- DESENSITIZATION AND FLOODING (IMPLOSION) IN TREATMENT OF PHOBIA.** 093231 13-14
- FLOW**
- TRYPTOPHAN 5-HYDROXYLASE: APPROXIMATION OF HALF-LIFE AND AXONAL FLOW RATE (UNPUBLISHED PAPER).** 092508 13-03
- IMPORTANCE OF NERVOUS IMPULSE FLOW FOR THE NEUROLEPTIC INDUCED INCREASE IN AMINE TURNOVER IN CENTRAL DOPAMINE NEURONS.** 120717 13-03
- FLUANXOL**
- FLUPENTHIXOL (FLUANXOL) IN THE TREATMENT OF APATHIC SYNDROMES OF SCHIZOPHRENIC ORIGIN.** 089300 13-08
- FLUPENTHIXOL (FLUANXOL) IN THE TREATMENT OF PSYCHOSOMATIC DISORDERS IN MEDICINE.** 099882 13-10
- FLUID**
- EFFECTS OF THIOPROPERAZINE ON THE URINARY EXCRETION AND CONCENTRATION IN THE CEREBROSPINAL FLUID OF 5-HYDROXYINDOLEACETIC ACID IN THE CHRONIC SCHIZOPHRENIC.** 074835 13-13
- FOLIC ACID CONCENTRATIONS IN CEREBROSPINAL FLUID IN RELATION TO ANTICONVULSANT DRUGS AND CEREBRAL ATROPHY.** 100809 13-11
- EFFECTS OF ALPHA-METHYLTYROSINE ON THE CEREBROSPINAL FLUID CONTENT OF HVA AND 5-HIAA IN MAN.** 104570 13-13
- EFFECT OF DRUGS USED IN STATUS-EPILEPTICUS ON THE POTASSIUM FLUXES OF CEREBROSPINAL FLUID IN THE CONSCIOUS DOG.** 120412 13-03
- FLUIDS**
- GAS CHROMATOGRAPHY MASS SPECTROMETRY OF NORTRIPTYLINE IN BODY FLUIDS OF MAN.** 077931 13-16
- A NEW GAS CHROMATOGRAPHIC METHOD FOR THE DEMONSTRATION OF CANNABIS INTAKE BY ANALYSIS OF BIOLOGICAL FLUIDS.** 123265 13-06
- FLUORACISINE**
- ASSESSMENT OF FLUORACISINE TOXICITY.** 111131 13-05
- FLUORACIZINE**
- ON THE SELECTIVE EFFECT OF THE NEW ANTIDEPRESSANT FLUORACIZINE ON THE ACTIVITY OF PYRIDINE DEHYDROGENASES IN THE BRAIN OF RATS.** 111703 13-03
- FLUORESCENCE**
- FLUORESCENCE MICROSCOPIC STUDY ON RAT BRAIN NEURONS AFFECTED BY HARMALINE ADMINISTRATION.** 087212 13-03
- EFFECT OF HASHISH SMOKE SUBLIMATE ON HYPOTHALAMIC NORADRENALINE STUDIED BY THE FLUORESCENCE METHOD.** 106486 13-03

**FLUORESCENT**

FLUORESCENT LABELED CANNABINOIDS.

105117 13-16

**FLUOXYMESTERONE**

A SYSTEMATIC CLINICAL STUDY WITH NICOTINIC ACID, THIORIDAZINE, FLUOXYMESTERONE AND THEIR COMBINATIONS IN HOSPITALIZED GERIATRIC PATIENTS: THERAPEUTIC RESULTS AND CHANGES IN PSYCHOMETRIC TEST PERFORMANCE.

098507 13-11

COMBINED ADMINISTRATION OF THIORIDAZINE, NICOTINIC ACID, AND FLUOXYMESTERONE IN THE TREATMENT OF GERIATRIC PATIENTS.

098601 13-13

**FLUPENTHIXOL**

FLUPENTHIXOL (FLUANXOL) IN THE TREATMENT OF APATHIC SYNDROMES OF SCHIZOPHRENIC ORIGIN.

089300 13-08

SIMULTANEOUS CLINICAL USE OF TWO NEUROLEPTICS (DROPERIDOL AND FLUPENTHIXOL) IN PSYCHIATRIC THERAPY.

096309 13-08

METABOLISM, DISTRIBUTION AND EXCRETION OF FLUPENTHIXOL DECANOATE IN DOGS AND RATS.

098615 13-03

FLUPENTHIXOL (FLUANXOL) IN THE TREATMENT OF PSYCHOSOMATIC DISORDERS IN MEDICINE.

099882 13-10

RESULTS FROM FLUPENTHIXOL (EMERGIL).

100606 13-07

CLINICAL EXPERIENCE WITH FLUPENTHIXOL IN THE TREATMENT OF CHRONIC SCHIZOPHRENIA.

105930 13-08

**FLUPHENAZINE**

CHANGES IN SOMATOSENSORY EVOKED POTENTIALS DURING FLUPHENAZINE TREATMENT.

087001 13-13

PHARMACOLOGICAL STUDIES OF FLUPHENAZINE AND NORTRIPTYLINE IN COMBINATION IN MAN.

089325 13-13

COMBINED INTRAMUSCULAR ADMINISTRATION OF DEPOT FLUPHENAZINE AND BENZOTROPINE MESYLATE IN CHRONIC SCHIZOPHRENIC PATIENTS.

098602 13-08

DECANOATE OF FLUPHENAZINE, A NEUROLEPTIC WITH RETARDED ACTION, IN THE TREATMENT OF SCHIZOPHRENIA.

098982 13-08

EEG CHANGES AFTER FLUPHENAZINE ENANTHATE AND DECANOATE BASED ON ANALOG POWER SPECTRA AND DIGITAL COMPUTER PERIOD ANALYSIS.

105009 13-13

FLUPHENAZINE ENANTHATE IN THE TREATMENT OF CHRONIC PSYCHOTIC PATIENTS: A CONTROLLED CLINICAL STUDY.

105673 13-08

THERAPEUTIC EFFECT OF FLUPHENAZINE IN VARIOUS DOSES AND FORMS.

105826 13-08

EFFECTS OF FLUPHENAZINE HYDROCHLORIDE ON DIGITAL COMPUTER SLEEP PRINTS OF SCHIZOPHRENIC PATIENTS.

108701 13-08

THE CONTRIBUTION OF FLUPHENAZINE ENANTHATE AND DECANOATE IN THE PREVENTION OF READMISSION OF SCHIZOPHRENIC PATIENTS.

115399 13-08

CLINICAL AND QUANTITATIVE EEG CHANGES AT DIFFERENT DOSAGE LEVELS OF FLUPHENAZINE TREATMENT.

115401 13-08

ATTEMPT TO TREAT STUPOROUS STATES WITH FLUPHENAZINE COMBINED WITH CERTAIN HORMONES.

125787 13-08

**FLUPHENAZINE-14C**

EXCRETION AND BIOTRANSFORMATION OF THE ENANTHATE ESTER OF FLUPHENAZINE-14C BY THE DOG.

086578 13-03

IDENTIFICATION OF 7-HYDROXYFLUPHENAZINE AS MAJOR METABOLITE OF FLUPHENAZINE-14C IN THE DOG.

086579 13-03

BIOLOGICAL DISPOSITION AND METABOLIC FATE OF FLUPHENAZINE-14C IN THE DOG AND RHESUS MONKEY.

086580 13-03

**FLURAZEPAM**

EVALUATION OF FLURAZEPAM.

082832 13-17

EVALUATION OF A NEW HYPNOTIC AGENT: FLURAZEPAM HYDROCHLORIDE (DALMANE).

099933 13-07

REACTION TO FLURAZEPAM.

102534 13-15

EFFECTS OF PLACEBO AND FLURAZEPAM ON SLEEP PATTERNS IN INSOMNIAC SUBJECTS.

104367 13-14

**FLUSPIRILENE**

CLINICAL AND ERGOTHERAPEUTIC EVALUATION OF FLUSPIRILENE (R-6218), A LONG-ACTING INJECTABLE NEUROLEPTIC, IN CHRONIC PSYCHOTIC PATIENTS.

102577 13-07

CLINICAL EXPERIENCE WITH FLUSPIRILENE IN PSYCHOSES.

105828 13-09

**FLUXES**

EFFECT OF DRUGS USED IN STATUS-EPILEPTICUS ON THE POTASSIUM FLUXES OF CEREBROSPINAL FLUID IN THE CONSCIOUS DOG.

120412 13-03

**FOCAL**

DIFFERENT REACTION OF FOCAL AND DIFFUSE EPILEPTIC EEG ACTIVITY TO PSILOCYBIN.

106001 13-13

**FOCI**

THE INFLUENCE OF BARBITURATES ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCI.

104375 13-03

INFLUENCE OF CHLORDIAZEPOXIDE ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCI.

104376 13-03

**FOLIC**

ANTICONSULSANT DRUGS, FOLIC ACID METABOLISM, FIT FREQUENCY AND PSYCHIATRIC ILLNESS.

093822 13-15

FOLIC ACID CONCENTRATIONS IN CEREBROSPINAL FLUID IN RELATION TO ANTICONSULSANT DRUGS AND CEREBRAL ATROPHY.

100809 13-11

LACK OF EFFECT OF FOLIC ACID ADMINISTRATION ON CEREBRAL METABOLISM.

101764 13-05

INTERRELATIONS OF FOLIC ACID AND VITAMIN-B12 IN DRUG TREATED EPILEPTIC PATIENTS.

106063 13-11

SERUM FOLIC ACID AND PHENYTOIN LEVELS IN PERMANENTLY HOSPITALIZED EPILEPTIC PATIENTS RECEIVING ANTICONSULSANT DRUG THERAPY.

108727 13-15

**FOLLOW-UP**

LSD REVISITED: A TEN-YEAR FOLLOW-UP OF MEDICAL LSD USE.

072262 13-12

THE EFFECTS OF ANTIDEPRESSANT THERAPY. A FOLLOW-UP STUDY.

105913 13-09

**FOOD**

INFLUENCE OF (-)DELTA(G) TRANS-TETRAHYDROCANNABINOL AND Mescaline ON THE BEHAVIOR OF RATS SUBMITTED TO FOOD COMPETITION SITUATIONS.

104578 13-04

THE EFFECTS OF INTRAHYPOTHALAMIC INJECTIONS OF DESMETHYLIMIPRAMINE ON FOOD AND WATER INTAKE OF THE RAT.

104806 13-04

ANALYSIS OF THE ACQUISITION AND EXTINCTION OF FOOD REINFORCED BEHAVIOR IN RATS AFTER THE ADMINISTRATION OF CHLORPROMAZINE.

105012 13-04

THE ROLE OF CENTRAL M-CHOLINERGIC SYSTEMS IN THE DEVELOPMENT OF FOOD MOTOR CONDITIONED REFLEXES.

107719 13-03

INTERACTION OF AMPHETAMINE AND FOOD DEPRIVATION ON A FOOD MOTIVATED OPERANT.

120960 13-04

THE INFLUENCE OF SUBCHRONIC TETRAHYDROCANNABINOL AND CANNABIS TREATMENT ON FOOD AND WATER INTAKE, BODY WEIGHT AND BODY TEMPERATURE OF RATS.

123267 13-03

A METHOD FOR STUDYING THE INFLUENCES OF DRUGS ON LEARNING FOR FOOD REWARDS IN RATS.

125249 13-06

**FOREBRAIN**

LESIONS IN THE MEDIAL FOREBRAIN BUNDLE: RELATIONSHIP BETWEEN PAIN SENSITIVITY AND TELECEPHALIC CONTENT OF SEROTONIN.

086171 13-03

DECREASED SEPTAL FOREBRAIN AND LATERAL HYPOTHALAMIC REWARD AFTER ALPHA-METHYL-P-TYROSINE.

088681 13-04

EFFECT OF N,N DIMETHYLTRYPTAMINE AND D-LYSERGIC ACID DIETHYLAMIDE ON THE RELEASE OF 5-HYDROXYINDOLES IN RAT FOREBRAIN.

095366 13-03

**FORMATION**

THE DISPOSITION AND METABOLISM OF TRYPTAMINE AND THE IN VIVO FORMATION OF 6-HYDROXYTRYPTAMINE IN THE RABBIT.

082786 13-03

THE INVOLVEMENT OF CENTRAL CHOLINERGIC MECHANISMS IN THE FORMATION AND INHIBITION OF CONDITIONAL REFLEXES IN RATS.

098295 13-04

# Subject Index

# Psychopharmacology Abstracts

- ELECTROENCEPHALOGRAPHIC STUDIES ON CODEINE DEPENDENCE IN RAT WITH SPECIAL REFERENCE TO THE SPIKE FORMATION IN THE HIPPOCAMPUS DURING ABSTINENCE SYNDROME.** 098304 13-03
- CHANGES IN THE FORMATION OF 3H-CATECHOLAMINES FROM 3H-DOPA AND 3H-TYROSINE INDUCED BY UNLABELLED DOPA.** 103313 13-03
- THE INFLUENCE OF TREATMENT WITH NEUROLEPTICS UPON THE ANTIBODY FORMATION.** 104798 13-13
- INDUCED FORMATION OF PHENYLALANINE AMMONIA LYASE AND PISATIN BY CHLORPROMAZINE AND OTHER PHENOTHIAZINE DERIVATIVES.** 108716 13-17
- EFFECT OF PUROMYCIN AND ACTINOMYCIN-D INJECTION INTO THE MESENCEPHALIC RETICULAR FORMATION ON THE CONDITIONED REFLEXES OF ANIMALS.** 113758 13-04
- FORMATION OF (3H)NORADRENALINE AND (3H)DOPAMINE IN THE BRAIN AND HEART OF THE RAT FETUS.** 115310 13-03
- FORMULATION**
- ADMINISTRATION OF TWO OF MORE RELATED DRUGS TO INVESTIGATE THE EFFECT OF MOLECULAR MODIFICATION AND FORMULATION ON DRUG ABSORPTION, METABOLISM AND EXCRETION.** 106908 13-13
- ON THE EFFECT OF PHARMACEUTICAL FORMULATION ON THIORIDAZINE ABSORPTION.** 120830 13-13
- FORMULATIONS**
- A PHARMACOKINETIC ANALYSIS OF LITHIUM CARBONATE ABSORPTION FROM SEVERAL FORMULATIONS IN MAN.** 100258 13-07
- FORREST**
- FURTHER EXPERIENCE WITH FORREST TESTS IN OBSTETRICS.** 106091 13-16
- FRACTIONATION**
- FRACTIONATION OF GOLDFISH BRAIN AMINOACYL TRANSFER RNA AT THE MICROGRAM LEVEL.** 087125 13-06
- FRACTIONS**
- EFFECT OF IN VIVO ETHANOL ADMINISTRATION ON ADENOSINETRIPHOSPHATASE ACTIVITY OF SUBCELLULAR FRACTIONS OF MOUSE BRAIN AND LIVER.** 105518 13-03
- EFFECT OF TRIPHENASINE AND CHLORPROMAZINE ON NORADRENALINE AND ATP CONCENTRATION IN THE GRANULATION AND SUPERNATANT FRACTIONS OF THE BRAIN STEM.** 111293 13-03
- FRAGMENTOGRAPHY**
- IDENTIFICATION OF (-)-DELTA-9-6A,10A,TRANS-TETRAHYDROCANNABINOL AND TWO OF ITS METABOLITES IN RATS BY USE OF COMBINATION GAS CHROMATOGRAPHY MASS SPECTROMETRY AND MASS FRAGMENTOGRAPHY.** 102733 13-03
- FREE**
- GLUCOSE, INSULIN, AND FREE FATTY ACID METABOLISM IN PARKINSONS DISEASE TREATED WITH LEVODOPA.** 096471 13-13
- CHANGES IN FREE FATTY ACIDS OF BRAIN BY DRUG-INDUCED CONVULSIONS, ELECTROSHOCK AND ANESTHESIA.** 100868 13-03
- IMPORTANCE OF CATECHOLAMINE RELEASE BY NERVE IMPULSES FOR FREE OPERANT BEHAVIOR.** 106757 13-04
- FREQUENCY**
- ANTICONSULSANT DRUGS, FOLIC ACID METABOLISM, FIT FREQUENCY AND PSYCHIATRIC ILLNESS.** 093822 13-15
- MAINTENANCE OF NORADRENALINE IN NEURONAL CELL BODIES AND TERMINALS: EFFECT OF FREQUENCY OF STIMULATION.** 105410 13-03
- EEG FREQUENCY ANALYSIS IN THE TREATMENT WITH SOME ANTIDEPRESSANT DRUGS: (IMIPRAMINE, AMITRIPTYLINE, DIBENZEPINE, DIMETHACRINE).** 112289 13-09
- FROG**
- EFFECT OF DIMETHYL AND MONOMETHYL TRICYCLIC ANTIDEPRESSANTS ON CENTRAL 5-HYDROXYTRYPTAMINE PROCESSES IN THE FROG.** 106426 13-03
- MECHANISMS OF INHIBITION OF CEREBELLAR PURKINJE CELLS IN RAT AND FROG.** 125594 13-03
- FRONTAL**
- ENHANCED AMPHETAMINE RESPONSES AFTER FRONTAL CORTEX LESIONS IN THE RAT.** 073309 13-04
- DIFFERENTIAL SENSITIVITY OF FRONTAL RATS TO D-AMPHETAMINE AND SCOPOLAMINE.** 082771 13-04
- FRUSTRATION**
- SODIUM AMYLOBARBITONE, THE PARTIAL REINFORCEMENT EXTINCTION EFFECT, AND THE FRUSTRATION EFFECT IN THE DOUBLE RUNWAY.** 082859 13-04
- FRUSTRATIVE**
- AMOBARBITAL AND THE PARTIAL REINFORCEMENT EFFECT IN RATS: ISOLATING FRUSTRATIVE CONTROL OVER INSTRUMENTAL RESPONDING.** 097414 13-14
- FUMARATE**
- KETIPRAMINE FUMARATE AS COMPARED TO IMIPRAMINE IN DEPRESSED OUTPATIENTS.** 077823 13-09
- FUNCTION**
- EFFECTS OF HYDROCORTISONE AND CYCLOHEXIMIDE ON BLOOD-BRAIN BARRIER FUNCTION IN THE RAT.** 078949 13-03
- EFFECT OF LITHIUM ON THYROID FUNCTION.** 088725 13-13
- EFFECTS OF ACTH ON VOLES (MICROTUS-PENNSYLVANICUS) RELATED TO REPRODUCTIVE FUNCTION AND RENAL DISEASE.** 089016 13-03
- ADRENAL FUNCTION AND ALCOHOLISM: II. CATECHOLAMINES.** 096452 13-13
- PENTYLENETETRAZOL IN THE TREATMENT OF GERIATRIC PATIENTS WITH DISTURBED MEMORY FUNCTION.** 098611 13-11
- ENHANCED DISSOLUTION RATES FOR A SERIES OF DRUGS AS A FUNCTION OF DOSAGE FORM DESIGN.** 100829 13-17
- CLINICAL HYPOTHYROIDISM OCCURRING DURING LITHIUM TREATMENT: TWO CASE HISTORIES AND A REVIEW OF THYROID FUNCTION IN 19 PATIENTS.** 101061 13-15
- DIFFERENTIAL ACTIVITY OF SOME PSYCHOTROPIC DRUGS AS A FUNCTION OF EMOTIONAL LEVEL IN ANIMALS.** 103952 13-04
- ADRENOCORTICAL FUNCTION AND SEX DIFFERENCES IN ACQUISITION AND EXTINCTION OF ACTIVE AVOIDANCE BEHAVIOR IN THE RAT.** 104457 13-04
- EFFECT OF CHLORPROMAZINE ON CONDITIONED AVOIDANCE AS A FUNCTION OF CS-US INTERVAL LENGTH.** 104579 13-04
- FACILITATION OR IMPAIRMENT OF LEARNING BY D-AMPHETAMINE AS A FUNCTION OF STIMULI.** 104795 13-04
- LEARNING IMPAIRMENT AFTER THREE CLASSES OF AGENTS WHICH MODIFY CHOLINERGIC FUNCTION.** 106523 13-04
- EFFECT OF CHLORPROMAZINE ON RENAL FUNCTION.** 111129 13-05
- PSYCHOMOTOR STIMULANT SELF-ADMINISTRATION AS A FUNCTION OF DOSAGE PER INJECTION IN THE RHESUS MONKEY.** 111146 13-04
- EFFECT OF CHLORPROMAZINE ON THE FUNCTION OF THE PERFUSED ISOLATED LIVER.** 118569 13-03
- PARTICIPATION OF LIVER FUNCTION IN THE ACUTE TOLERANCE TO PENTOBARBITAL INDUCED AFTER SHORT-TERM INFUSION.** 125326 13-03
- FUNCTIONAL**
- IMPORTANCE OF NORADRENALINE FOUND IN A FUNCTIONAL POOL IN MAINTAINING SPONTANEOUS LOCOMOTOR ACTIVITY IN RATS.** 077424 13-04
- STUDIES ON THE FUNCTIONAL SIGNIFICANCE OF CARBONIC ANHYDRASE IN CENTRAL NERVOUS SYSTEM.** 092158 13-03
- RENAL FUNCTIONAL DAMAGE DURING THE COURSE OF LITHIUM THERAPY: A CASE REPORT WITH RENAL BIOPSY FINDINGS.** 100206 13-15
- ON THE FUNCTIONAL RELATIONSHIP BETWEEN PHYSIOLOGICAL AND PENTETRAZOL INDUCED RHYTHMIC ACTIVITY IN THE EEG OF UNRESTRAINED RATS.** 113567 13-03
- FUNCTIONAL INTERACTIONS BETWEEN ALDOLASE AND CHLORPROMAZINE.** 119698 13-03
- STUDIES ON THE FUNCTIONAL ROLE OF ADENOSINE 3,5 MONOPHOSPHATE, HISTAMINE, AND PROSTAGLANDIN E1 IN THE CENTRAL NERVOUS SYSTEM.** 120949 13-14
- PERCUTANEOUS DEXAMETHASONE AND FUNCTIONAL REHABILITATION IN NEUROLOGICAL DISORDERS.** 122393 13-11

## FUNCTIONALIZED

THE DEVELOPMENT OF SYNTHETIC TECHNIQUES TO INTRODUCE A FUNCTIONALIZED CARBON SUBSTITUENT REGIOSELECTIVELY INTO THE BENZENE RING OF AN INDOLE NUCLEUS.

112783 13-01

## FUNCTIONING

REVIEW OF THE EFFECTS IN MAN OF MARIJUANA AND TETRAHYDROCANNABINOLS ON SUBJECTIVE STATE AND PHYSIOLOGIC FUNCTIONING (UNPUBLISHED PAPER).

092101 13-13

FUNCTIONING OF IDENTIFIED NEURONS AND SYNAPSES IN ABDOMINAL GANGLION OF APLYSIA IN ABSENCE OF PROTEIN SYNTHESIS.

102512 13-03

## FUNCTIONS

AN ADVERSE REACTION UNIT: RESULTS AND FUNCTIONS.

085460 13-15

## FUNDAL

DECREASED CALCIUM UPTAKE BY RAT FUNDAL STRIPS AFTER PRETREATMENT WITH NEURAMINIDASE OR LSD IN VITRO.

105710 13-03

## FUSION

THE CRITICAL FLICKER FUSION DURING THE ACTION OF DIFFERENT DRUGS: I. COFFEINE AND MEPROBAMATE (INCLUDING A FULL DESCRIPTION OF THE METHOD).

104789 13-13

## GABA

EFFECTS OF VARIOUS HYDRAZINES UPON THE METABOLISM OF GAMMA-AMINOBUTYRIC ACID (GABA)-1-14C BY RATS.

101704 13-03

GABA UPTAKE IN RAT CENTRAL NERVOUS SYSTEM: COMPARISON OF UPTAKE IN SLICES AND HOMOGENATES AND THE EFFECTS OF SOME INHIBITORS.

104007 13-03

ELEVATION OF BRAIN GABA BY PARGYLINE: A POSSIBLE MECHANISM FOR PROTECTION AGAINST OXYGEN TOXICITY.

106920 13-03

AUTORADIOGRAPHY OF SOME SUSPECTED NEUROTRANSMITTER SUBSTANCES: GABA GLYCINE, GLUTAMIC ACID, HISTAMINE, DOPAMINE, AND L-DOPA.

109417 13-03

FACTORS THAT AFFECT THE BINDING AND UPTAKE OF GABA BY BRAIN TISSUE.

111216 13-03

EXCITATORY ACTIONS OF GABA AND OF INHIBITORY NEURONS.

125598 13-03

## GAIN

APPETITE STIMULATING AND WEIGHT GAIN PROPERTIES OF CYPROHEPTADINE (PERIACTIN) IN GERIATRIC SUBJECTS.

074314 13-11

## GALVESTON

ACCIDENTAL AND SELF-INDUCED POISONING IN GALVESTON COUNTY 1958-1969.

088503 13-15

## GAMMA-AMINOBUTYRIC

EFFECTS OF IMIPRAMINE ON THE NA-ION DEPENDENT EXCHANGE AND RETENTION OF GAMMA-AMINOBUTYRIC ACID BY MOUSE BRAIN SUBCELLULAR PARTICLES.

077725 13-03

THE SUBCELLULAR DISTRIBUTION OF ENDOGENOUS AND EXOGENOUS SEROTONIN IN BRAIN TISSUE: COMPARISON OF SYNAPTOSOMES STORING SEROTONIN, NOREPINEPHRINE, AND GAMMA-AMINOBUTYRIC ACID.

077855 13-03

EFFECTS OF VARIOUS HYDRAZINES UPON THE METABOLISM OF GAMMA-AMINOBUTYRIC ACID (GABA)-1-14C BY RATS.

101704 13-03

## GAMMA-HYDROXYBUTYRATE

EFFECT OF ANESTHETIC DOSES OF GAMMA-HYDROXYBUTYRATE ON SUBCORTICAL CONCENTRATION OF HOMOVANILLIC ACID.

086813 13-03

STIMULATION OF BRAIN DOPAMINE SYNTHESIS BY GAMMA-HYDROXYBUTYRATE.

104010 13-03

REINVESTIGATION OF THE EFFECTS OF GAMMA-HYDROXYBUTYRATE ON THE SLEEP CYCLE OF THE UNRESTRAINED INTACT CAT.

109621 13-03

## GANGLION

FUNCTIONING OF IDENTIFIED NEURONS AND SYNAPSES IN ABDOMINAL GANGLION OF APLYSIA IN ABSENCE OF PROTEIN SYNTHESIS.

102512 13-03

EFFECTS OF SEROTONIN (5-HT) AND SOME RELATED INDOLE COMPOUNDS IN A MAMMALIAN SYMPATHETIC GANGLION.

125596 13-03

## GAS

GAS CHROMATOGRAPHY MASS SPECTROMETRY OF NORTRIPTYLINE IN BODY FLUIDS OF MAN.

077931 13-16

GAS CHROMATOGRAPHIC ANALYSIS OF CHLORPROMAZINE AND ITS METABOLITES FORMED BY HEPATIC MICROSOMES - I. INFLUENCE OF MAGNESIUM.

102695 13-03

IDENTIFICATION OF (-)-DELTA-9-6A, 10A, TRANS-TETRAHYDROCANNABINOL AND TWO OF ITS METABOLITES IN RATS BY USE OF COMBINATION GAS CHROMATOGRAPHY MASS SPECTROMETRY AND MASS FRAGMENTOGRAPHY.

102733 13-03

A NEW GAS CHROMATOGRAPHIC METHOD FOR THE DEMONSTRATION OF CANNABIS INTAKE BY ANALYSIS OF BIOLOGICAL FLUIDS.

123265 13-06

## GASTRIC

THE EFFECTS OF ETHANOL ON THE DEVELOPMENT OF GASTRIC ULCERATION IN THE RAT.

085478 13-03

EFFECT OF AMINOGLUANIDINE, CHLORPROMAZINE AND MSD-1055 ON GASTRIC SECRETION AND ULCERATION IN THE SHAY RAT.

089442 13-03

ASPECTS OF THE GASTRIC ACID ANTISECRETORY ACTIVITY OF 3,3-DIMETHYL-1-(3-METHYLAMINOPROPYL)-1-PHENYLPHTHALAN: A BLOCKER OF NOREPINEPHRINE UPTAKE.

106526 13-03

EFFECT OF IMIPRAMINE ON CATECHOLAMINE CONTENT IN A NEUROGENICALLY DYSTROPHIC GASTRIC WALL.

113520 13-03

## GASTROENTEROLOGICAL

PSYCHOSOMATIC ASPECTS OF GASTROENTEROLOGICAL DISORDERS.

125956 13-17

## GAUGE

A STRAIN GAUGE PAIN STIMULATOR.

077930 13-16

## GB

EFFECTS OF SINGLE 1/2 LD50 DOSES OF GB UPON DELAYED RESPONSE AND CONDITIONED AVOIDANCE RESPONSE TESTS.

094956 13-03

## GENETIC

AN ATTEMPT TO CORRELATE THE EFFECT OF IMIPRAMINE AND OF AMITRIPTYLINE WITH SOME GENETIC CHARACTERISTICS.

086077 13-13

GENETIC CONTROL OF NORTRIPTYLINE KINETICS IN MAN - A STUDY OF RELATIVES OF PROPOSITI WITH HIGH PLASMA CONCENTRATION.

122578 13-13

## GENETICALLY

AMPHETAMINE TOXICITY IN GENETICALLY AGGRESSIVE AND NONAGGRESSIVE MICE.

087119 13-05

DIFFERENTIATION OF TWO GENETICALLY SPECIFIC TYPES OF DEPRESSION BY THE RESPONSE TO ANTIDEPRESSANT DRUGS.

101434 13-10

## GERBIL

SEX DIFFERENCE IN THE METABOLISM OF HEXOBARBITAL IN THE MONGOLIAN GERBIL (MERIONES-UNGUICULATUS).

125329 13-03

## GERIATRIC

APPETITE STIMULATING AND WEIGHT GAIN PROPERTIES OF CYPROHEPTADINE (PERIACTIN) IN GERIATRIC SUBJECTS.

074314 13-11

SENILEX IN THE TREATMENT OF GERIATRIC PATIENTS.

077824 13-11

COMBINED ADMINISTRATION OF THIORIDAZINE AND NICOTINIC ACID IN THE TREATMENT OF GERIATRIC PATIENTS.

078942 13-11

PSYCHIATRIC TREATMENT FOR GERIATRIC PATIENTS: PUB OR DRUG?

079780 13-14

PROBLEMS OF A DRUG TRIAL (PEMOLINE) ON GERIATRIC PATIENTS.

093774 13-11

METHODS FOR EVALUATING DRUG EFFICACY IN GERIATRIC PSYCHIATRIC DISORDERS.

095540 13-11

A REEVALUATION OF CINNARIZINE WITH GERIATRIC INPATIENTS.

098229 13-14

REPORT ON THE USE OF A NEW GERIATRIC DRUG IN A HOME FOR THE AGED AND NURSING HOME.

098451 13-11

A SYSTEMATIC CLINICAL STUDY WITH NICOTINIC ACID, THIORIDAZINE, FLUOXYMESTERONE AND THEIR COMBINATIONS IN HOSPITALIZED GERIATRIC PATIENTS: THERAPEUTIC RESULTS AND CHANGES IN PSYCHOMETRIC TEST PERFORMANCE.

098507 13-11

COMBINED ADMINISTRATION OF THIORIDAZINE, NICOTINIC ACID, AND FLUOXYMESTERONE IN THE TREATMENT OF GERIATRIC PATIENTS.

098601 13-13

PENTYLENETETRAZOL IN THE TREATMENT OF GERIATRIC PATIENTS WITH DISTURBED MEMORY FUNCTION.

098611 13-11

# Subject Index

# Psychopharmacology Abstracts

- GERIATRICS**  
NEW POSSIBILITIES OF CONTROLLING STATES OF UNREST OF A PSYCHOMOTOR OR CEREBROSCLECTROTIC NATURE IN INSTITUTIONAL GERIATRICS. 102383 13-11
- GERIATRIKA**  
THE CLINICAL TESTING OF GERIATRIKA: A CLINICAL STUDY. 089150 13-11
- GERONTOPSYCHIATRY**  
EXPERIMENTAL AND CLINICAL EXPERIENCE WITH ENCEPHALOL THERAPY IN GERONTOPSYCHIATRY. 101939 13-14
- GILLES-DE-LA-TOURETTE**  
CLINICAL DANGERS OF PSYCHOLOGICAL THEORIZING: THE GILLES-DE-LA-TOURETTE SYNDROME. 104558 13-17
- GILLES-DE-LA-TOURETTES**  
A CASE WITH GILLES-DE-LA-TOURETTES SYNDROME; RECURRENT REFRACTORYNESS TO HALOPERIDOL AND UNSUCCESSFUL TREATMENT WITH L-DOPA. 085013 13-10  
THE CLINICAL PICTURE AND MANAGEMENT OF GILLES-DE-LA-TOURETTES SYNDROME. 118778 13-09
- GINGIVA**  
THE EFFECTS OF MORPHINE, PENTOBARBITAL AND CHLORPROMAZINE ON BIOELECTRICAL POTENTIALS EVOKED IN THE BRAIN STEM OF THE CAT BY ELECTRICAL STIMULATION OF THE GINGIVA AND TOOTH PULP. 094254 13-05
- GIRL**  
DELUSION OF PREGNANCY IN A GIRL WITH DRUG-INDUCED LACTATION. 085705 13-15
- GIRLS**  
ON THE CLINICAL PICTURE OF THE SO-CALLED PSYCHOPATHIC-LIKE SYNDROME IN ADOLESCENT GIRLS. 102715 13-17
- GLAND**  
PROTEIN METABOLISM AND AMINO ACID ACCUMULATION IN THE RAT SUBMAXILLARY GLAND DURING REDUCED SYMPATHETIC ACTIVITY. 087123 13-03  
CATECHOL-O-METHYLTRANSFERASE AND MONOAMINE OXIDASE ACTIVITIES IN RAT SUBMAXILLARY GLAND: EFFECTS OF LIGATION, SYMPATHECTOMY AND SOME DRUGS. 099645 13-03  
NEUROENDOCRINE CONTROL OF THE ADENOSINE 3,5 - MONOPHOSPHATE SYSTEM OF BRAIN AND PINEAL GLAND. (UNPUBLISHED PAPER). 099967 13-03  
EFFECT OF NOREPINEPHRINE ON THE CONCENTRATION OF ADENOSINE 3,5 MONOPHOSPHATE OF RAT PINEAL GLAND IN ORGAN CULTURE. (UNPUBLISHED PAPER). 106059 13-03
- GLANDS**  
THE PREPUTIAL GLANDS AS A SOURCE OF AGGRESSION PROMOTING ODORS IN MICE. 088571 13-04  
INCREASED RATE OF NORADRENALINE CIRCULATION IN THE HYPOTHALAMUS AFTER DEMEDULLATION OF THE ADRENAL GLANDS. 111704 13-03
- GLIAL**  
EFFECT OF PHENAMINE INDUCED INSOMNIA AND OF SUBSEQUENT SLEEP ON PROTEIN CONTENT IN THE NEURONS AND GLIAL CELLS OF THE SUPRAOPTIC AND RED NUCLEI OF THE BRAIN. 111831 13-03
- GLOBAL**  
GLOBAL RATINGS COMPARED TO RATING SCALES IN EVALUATING TRIFLUOPRAZINE AMOBARBITAL IN ANXIOUS PSYCHONEUROTIC OUTPATIENTS. 098093 13-10
- GLOBUS-PALLIDUS**  
CHOLINERGIC AND NEUROLEPTIC INDUCED CATALEPSY: MODIFICATION BY LESIONS IN THE GLOBUS-PALLIDUS AND SUBSTANTIA-NIGRA. 122542 13-03
- GLUCAGON**  
EFFECTS OF CHLORPROMAZINE, DL-PROPRANOLOL, AND D-PROPRANOLOL IN THE ISOLATED RAT HEART: MODIFICATION OF THE RESPONSE TO ISOPRENALINE AND GLUCAGON. 120719 13-03
- GLUCOCORTICOID**  
KINETICS OF THE GLUCOCORTICOID MEDIATED INDUCTION OF PHENYLETHANOLAMINE N METHYL TRANSFERASE IN THE HYPOPHYSECTOMIZED RAT. 108720 13-03
- GLUCOSE**  
INFLUENCE OF METHAMPHETAMINE ON INCORPORATION OF GLUCOSE INTO BRAIN GLYCOGEN. 086819 13-03
- GLUCOSE, INSULIN, AND FREE FATTY ACID METABOLISM IN PARKINSONS DISEASE TREATED WITH LEVODOPA.** 096471 13-13
- EFFECTS OF INTRAPERITONEAL INJECTIONS OF LITHIUM CHLORIDE ON THE ENTRY OF RADIOACTIVE CARBON ATOMS OF GLUCOSE AND AMINO ACIDS INTO MOUSE BRAIN AND OTHER TISSUES.** 106524 13-03
- EFFECT OF PHENELZINE ON THE METABOLISM AND MEMBRANAL TRANSPORT OF GLUCOSE IN BRAIN.** 108267 13-03
- GLUTAMIC**  
AUTORADIOGRAPHY OF SOME SUSPECTED NEUROTRANSMITTER SUBSTANCES: GABA GLYCINE, GLUTAMIC ACID, HISTAMINE, DOPAMINE, AND L-DOPA. 109417 13-03
- GLUTETHIMIDE**  
SECONDARY GLUTETHIMIDE ADDICTION IN ENDOGENOUS ATYPICAL PSYCHOSES. 087021 13-15  
DETERMINATION OF THE COMPONENTS OF A COMBINED PREPARATION OF GLUTETHIMIDE, AMOBARBITAL AND PROMETHAZINE IN AUTOPSY MATERIAL FROM SEVERAL SUICIDES. 089151 13-15  
AN ANALYSIS OF THE EFFECTS OF METHAQUALONE AND GLUTETHIMIDE ON SLEEP IN INSOMNIAC SUBJECTS. 105119 13-14
- GLYCINE**  
AUTORADIOGRAPHY OF SOME SUSPECTED NEUROTRANSMITTER SUBSTANCES: GABA GLYCINE, GLUTAMIC ACID, HISTAMINE, DOPAMINE, AND L-DOPA. 109417 13-03
- GLYCOGEN**  
INFLUENCE OF METHAMPHETAMINE ON INCORPORATION OF GLUCOSE INTO BRAIN GLYCOGEN. 086819 13-03  
EFFECT OF TRANQUILIZERS AND ANTIDEPRESSANTS ON GLYCOGEN PHOSPHORYLASE OF RAT BRAIN. 108283 13-03
- GOAL**  
MOTIVATED BEHAVIORS PRODUCED BY INCREASED AROUSAL IN THE PRESENCE OF GOAL OBJECTS. 095549 13-04
- GOLDFISH**  
FRACTIONATION OF GOLDFISH BRAIN AMINOACYL TRANSFER RNA AT THE MICROGRAM LEVEL. 087125 13-06
- GP-45795**  
A PILOT STUDY OF GP-45795 IN CHRONIC SCHIZOPHRENICS. 098603 13-08  
GP-45795: A NEW DIBENZOTHIPIEPIN ANTIPSYCHOTIC AGENT. 099157 13-07
- GPA-1657**  
STUDIES OF THE DEPENDENCE PRODUCING PROPERTIES OF GPA-1657, PROFADOL, AND PROPRIAM IN MAN. 104363 13-14
- GPA-2087**  
PROGRESS REPORT ON THE ASSESSMENT OF THE ANTAGONISTS HALBUPHINE AND GPA-2087 FOR ABUSE POTENTIAL AND STUDIES OF THE EFFECTS OF DEXTROMETHORPHAN IN MAN (UNPUBLISHED PAPER). 094938 13-13
- GRADIENT**  
THE CYCLOHEXIMIDE INDUCED AMNESIA GRADIENT OF A PASSIVE AVOIDANCE TASK. 105075 13-04
- GRADING**  
ALCOHOL DEPENDENCE PRODUCED IN MICE BY INHALATION OF ETHANOL: GRADING THE WITHDRAWAL REACTION. 082827 13-03
- GRANULAR**  
CORRELATION OF THE RECOVERY OF THE GRANULAR UPTAKE STORAGE MECHANISM AND THE NERVE IMPULSE INDUCED RELEASE OF (3H)NORADRENALINE AFTER RESERPINE. 120819 13-03
- GRANULATION**  
EFFECT OF TRIPHASINE AND CHLORPROMAZINE ON NORADRENALINE AND ATP CONCENTRATION IN THE GRANULATION AND SUPERNATANT FRACTIONS OF THE BRAIN STEM. 111293 13-03
- GRAPHOLOGICAL**  
HANDWRITING CHANGES FOLLOWING MEPROBAMATE AND ALCOHOL: A GRAPHOMETRIC GRAPHOLOGICAL INVESTIGATION. 106143 13-14
- GRAPHOMETRIC**  
HANDWRITING CHANGES FOLLOWING MEPROBAMATE AND ALCOHOL: A GRAPHOMETRIC GRAPHOLOGICAL INVESTIGATION. 106143 13-14

## GRAY

SOMATOSENSORY EVOKED RESPONSES IN THE MESENCEPHALIC CENTRAL GRAY MATTER OF THE RAT.

097446 13-03

EFFECT OF PSYCHOTROPIC AGENTS ON THE EMOTIONAL BEHAVIOR OF CATS INJECTED WITH ACETYLCHOLINE INTO THE CENTRAL GRAY MATTER.

112007 13-04

## GROUP

COMBINATION MEDICATIONS IN PSYCHIATRIC TREATMENT: PATTERNS IN A GROUP OF ELDERLY HOSPITAL PATIENTS.

086704 13-14

NEUROPSYCHOPATHOLOGY RESEARCH GROUP: LABORATORY OF COMPARATIVE NEUROPSYCHOPATHOLOGY.

092317 13-04

LYSERGIC ACID DIETHYLAMIDE TARTRATE (LSD-25) DOSAGE LEVELS, GROUP DIFFERENCES, AND SOCIAL INTERACTION.

098888 13-12

RESULTS OF LITHIUM TREATMENT OF MANIC-DEPRESSIVE PSYCHOSIS IN COMPARISON WITH THE CONTROL GROUP.

105830 13-09

TO THE ANTIDEPRESSIVE PROPERTIES OF LITHIUM AND ITS PLACE IN THE GROUP OF ANTIDEPRESSIVE DRUGS.

105832 13-09

## GROUPED

INCREASED AGGRESSION AND TOXICITY IN GROUPED MALE MICE TREATED WITH TRANQUILIZING BENZODIAZEPINES.

104380 13-05

## GROUPS

DIFFERENCES AMONG AGE AND SEX GROUPS WITH RESPECT TO CARDIOVASCULAR CONDITIONING AND REACTIVITY. (UNPUBLISHED PAPER).

082516 13-13

## GROWTH

INHIBITION OF NORMAL GROWTH BY CHRONIC ADMINISTRATION OF DELTA9-TETRAHYDROCANNABINOL.

101935 13-05

## GUANETHIDINE

CHLORPROMAZINE REVERSAL OF THE ANTIHYPERTENSIVE ACTION OF GUANETHIDINE.

098750 13-13

DEBRISOQUINE, GUANETHIDINE, PROPRANOLOL AND HUMAN SLEEP.

110189 13-14

PRELIMINARY REPORT ON THE INCORPORATION OF GUANETHIDINE AND RESERPINE INTO RAT PERITONEAL MAST CELLS IN VITRO.

111073 13-03

ACUTE DIURETIC RESPONSE TO GUANETHIDINE AND RESERPINE.

122536 13-03

## GUIDE

PSYCHOACTIVE DRUGS: A USAGE GUIDE.

102596 13-17

## GUIDELINES

THERAPEUTIC GUIDELINES AND SIDE-EFFECTS ENCOUNTERED DURING L-DOPA THERAPY IN 100 CASES OF PARKINSONISM.

106483 13-15

## GUINEA-PIG

INHIBITION OF NOREPINEPHRINE BIOSYNTHESIS BY CHLORPROMAZINE IN THE GUINEA-PIG VAS-DEFERENS.

082784 13-03

EFFECTS OF ACUTE AND CHRONIC AMPHETAMINE INTOXICATION ON BRAIN CATECHOLAMINES IN THE GUINEA-PIG.

088539 13-03

THE ACCUMULATION OF 14C-SEROTONIN IN THE SYMPATHETIC NERVES OF THE GUINEA-PIG VAS-DEFERENS (UNPUBLISHED PAPER).

092689 13-03

METABOLISM OF DIAZEPAM AND ITS METABOLITES BY GUINEA-PIG LIVER MICROSOMES.

102806 13-03

EFFECT OF AMPHETAMINE ON THE UPTAKE, RELEASE AND EFFECTIVENESS OF XYLOCHOLINE IN THE GUINEA-PIG VAS-DEFERENS.

105411 13-03

UNEXPLAINED INHIBITORY ACTION OF D-LYSERGIC ACID DIETHYLAMIDE (LSD) ON POSTGANGLIONIC MOTOR TRANSMISSION IN THE GUINEA-PIG VAS-DEFERENS.

109198 13-03

THE EFFECT OF BETA-PHENETHYLAMINE ON NORADRENALINE CONCENTRATIONS IN GUINEA-PIG BRAIN.

112287 13-03

AMINE UPTAKE CHARACTERISTICS OF THE GUINEA-PIG AUERBACH PLEXUS.

120466 13-03

POTENTIATION BY COCAINE OF RESPONSES OF THE GUINEA-PIG ISOLATED TRACHEAL CHAIN TO ETHYLNORADRENALINE AND ALPHA-METHYLNORADRENALINE.

122550 13-03

## GUINEA-PIGS

IMPAIRED BILIARY EXCRETION OF PHENOL 3,6 DIBROMOPHTHALEIN DISULFONATE IN NEONATAL GUINEA-PIGS.

089284 13-03

METABOLISM AND ANTICONVULSANT ACTIVITY OF DIAZEPAM IN GUINEA-PIGS.

101701 13-03

## GUT

ANALGESICS AND PSYCHOTROPIC DRUGS IN THE MANAGEMENT OF DISEASE OF THE GUT.

087867 13-17

L-3,4 DIHYDROXYPHENYLALANINE METABOLISM BY THE GUT IN VITRO.

120468 13-03

## HABITUATION

STIMULUS AND RESPONSE SPECIFICITY IN THE HABITUATION OF ANTIPREDATOR BEHAVIOUR IN THE RING DOVE (STREPTOPELIA-RISORIA).

100047 13-09

THE EFFECTS OF ATROPINE ON HABITUATION IN A LIGHT REINFORCEMENT SITUATION.

104576 13-04

ACCIDENTAL CONDITIONING WITH CHRONIC METHAMPHETAMINE INTOXICATION: IMPLICATIONS FOR A THEORY OF DRUG HABITUATION.

110187 13-04

STUDIES ON MORPHINE DEMONSTRATING THE PHENOMENA OF PHARMACOLOGIC TOLERANCE, BEHAVIORAL TOLERANCE AND BEHAVIORAL HABITUATION. (PH.D. DISSERTATION).

125242 13-04

## HALDOL

HALDOL (HALOPERIDOL).

095313 13-17

## HALF-LIFE

TRYPTOPHAN 5-HYDROXYLASE: APPROXIMATION OF HALF-LIFE AND AXONAL FLOW RATE (UNPUBLISHED PAPER).

092508 13-03

BIOLOGICAL HALF-LIFE OF CHLORDIAZEPOXIDE AND ITS METABOLITE, DEMOXEPAM, IN MAN.

120828 13-13

## HALLUCINOGENIC

DOM (STP), A NEW HALLUCINOGENIC DRUG: SPECIFIC PERCEPTUAL CHANGES.

078958 13-12

USE OF ANTIEPILEPTIC MEDICATION IN TREATING FLASHBACKS FROM HALLUCINOGENIC DRUGS.

102589 13-17

THE EFFECT OF SOME HALLUCINOGENIC AND OTHER DRUGS ON THE TEMPERATURE OF RESERPINIZED MICE.

104573 13-04

PSYCHEDELICS: THE USES AND IMPLICATIONS OF HALLUCINOGENIC DRUGS.

111962 13-12

NEAR FATAL REACTION TO INGESTION OF THE HALLUCINOGENIC DRUG MDA.

125427 13-15

## HALLUCINOGENS

HALLUCINOGENS AND NONHALLUCINOGENS: A COMPARISON OF THE EFFECTS ON 5-HYDROXYTRYPTAMINE AND NORADRENALINE.

077892 13-03

AN IMPROVED FIELD TEST FOR HALLUCINOGENS.

087142 13-16

THE INFLUENCE OF ANTICHOLINERGIC HALLUCINOGENS ON SPONTANEOUS AND CONDITIONED BEHAVIOUR IN RATS.

105994 13-04

THE EFFECTS OF SOME HALLUCINOGENS ON AGGRESSIVENESS OF MICE AND RATS, PART I.

108032 13-04

## HALLUCINOSIS

METHYLPHENIDATE HALLUCINOSIS.

095311 13-15

HALLUCINOSIS FOLLOWING INTOXICATION WITH PHOSCHLORIDE R-20.

122950 13-15

## HALO-SUBSTITUTED

BIOCHEMICAL AND BEHAVIOURAL EFFECTS OF SOME HALO-SUBSTITUTED VINYL PHOSPHORUS ESTERS.

102102 13-03

## HALOPERIDOL

HALOPERIDOL IN 60 CRIMINAL PSYCHOTICS.

079232 13-07

A CASE WITH GILLES-DE-LA-TOURETTES SYNDROME: RECURRENT REFRACTORINESS TO HALOPERIDOL AND UNSUCCESSFUL TREATMENT WITH L-DOPA.

085013 13-10

EFFECTS OF SMALL DOSES OF HALOPERIDOL ON TIMING BEHAVIOUR.

088640 13-04

SENSITIVITY TO HALOPERIDOL OF CAUDATE NEURONES EXCITED BY NIGRAL STIMULATION.

089026 13-03

## Subject Index

- HALDOL (HALOPERIDOL).** 095313 13-17
- HALOPERIDOL VERSUS THIORIDAZINE FOR HOSPITALIZED PSYCHOGERIATRIC PATIENTS: DOUBLE-BLIND STUDY.** 096021 13-11
- HALOPERIDOL AS A TREATMENT OF ANXIETY IN PSYCHONEUROTIC PATIENTS.** 099155 13-10
- ASSESSMENT OF LOW DOSAGE HALOPERIDOL IN ANXIETY STATES.** 100790 13-10
- HALOPERIDOL IN ANXIETY.** 102213 13-10
- ON THE INFLUENCE OF HALOPERIDOL ON LYSERGIC ACID INTOXICATION.** 102792 13-03
- BEHAVIORAL EFFECTS OF HALOPERIDOL AFTER TYROSINE HYDROXYLASE INHIBITION.** 104171 13-04
- EFFECTS OF HALOPERIDOL, TRIFLUOPERIDOL, NITRAZEPAM AND CHLORDIAZEPoxide UPON CONDITIONED MIDBRAIN BEHAVIORAL RESPONSES.** 104394 13-04
- THE ULTRASTRUCTURE OF THE SYNAPTIC APPARATUS FOLLOWING INTRODUCTION OF PHENAMINE AND HALOPERIDOL.** 107720 13-03
- A COMPARISON OF CHLORPROTHIXENE AND HALOPERIDOL IN ACUTE SCHIZOPHRENIA.** 108838 13-08
- THE EFFECTS OF NALOXONE, CHLORPROMAZINE, AND HALOPERIDOL PRETREATMENT ON LEVALLORPHAN INDUCED DISRUPTION OF RATS OPERANT BEHAVIOR.** 111145 13-04
- THE MANAGEMENT OF EXCITEMENT IN A GENERAL HOSPITAL PSYCHIATRIC WARD BY HIGH DOSAGE HALOPERIDOL.** 115398 13-14
- EXOGENOUS PSYCHOSIS FOLLOWING ACCIDENTAL HALOPERIDOL INTOXICATION.** 118217 13-15
- LONG-TERM EFFECTS OF HALOPERIDOL ON SEVERELY EMOTIONALLY DISTURBED CHILDREN.** 118717 13-11
- POTENTIATION OF HALOPERIDOL BY TYROSINE HYDROXYLASE INHIBITION.** 123269 13-03
- HALOTHANE**  
EFFECTS OF HALOTHANE ANESTHESIA ON THE RETENTION OF A PASSIVE AVOIDANCE TASK IN RATS. 078448 13-04
- HAMSTER**  
THE EFFECTS OF CENTRALLY ADMINISTERED CHLORPROMAZINE ON TEMPERATURE REGULATION IN THE HAMSTER. 089098 13-03
- HANDWRITING**  
HANDWRITING CHANGES FOLLOWING MEPROBAMATE AND ALCOHOL: A GRAPHOMETRIC GRAPHOLOGICAL INVESTIGATION. 106143 13-14
- HANGOVER**  
HANGOVER EFFECTS OF HYPNOTICS IN MAN. 087363 13-14
- HANGOVERS**  
HYPNOTICS AND HANGOVERS. 077704 13-14
- HYPNOTICS AND HANGOVERS.** 083087 13-15
- HARMALINE**  
METABOLISM OF HARMALINE IN RATS. 086818 13-03
- FLUORESCENCE MICROSCOPIC STUDY ON RAT BRAIN NEURONS AFFECTED BY HARMALINE ADMINISTRATION.** 087212 13-03
- INTERACTION OF SEROTONIN ANTAGONISTS WITH HARMALINE INDUCED CHANGES IN OPERANT BEHAVIOR AND BODY TEMPERATURE IN THE RAT.** 098160 13-03
- HARMINE**  
THE INFLUENCE OF HARMINE ON THE BIOELECTRIC ACTIVITY IN THE RAT HIPPOCAMPUS. 124106 13-03
- THE INFLUENCE OF HARMINE ON BIOELECTRIC ACTIVITY IN CEREBRUM ISOLE RATS.** 125071 13-03
- HASHISH**  
THE EFFECT OF HASHISH EXTRACT ON THE NOREPINEPHRINE IN RABBIT BRAIN. 098557 13-03
- INCREASED RESISTANCE TO EXTINCTION OF AN AVOIDANCE RESPONSE IN RATS FOLLOWING THE ADMINISTRATION OF HASHISH RESIN.** 103951 13-04

## Psychopharmacology Abstracts

- EFFECT OF HASHISH SMOKE SUBLIMATE ON HYPOTHALAMIC NORADRENALINE STUDIED BY THE FLUORESCENCE METHOD.** 106486 13-03
- HASHISH AND MENTAL ILLNESS.** 107421 13-14
- HAZARDOUS**  
PLACENTAL TRANSFER OF DIAZOXIDE AND ITS HAZARDOUS EFFECT ON THE NEWBORN. 086938 13-03
- HAZARDS**  
THE HAZARDS OF USE OF MONOAMINE OXIDASE INHIBITORS IN DISTURBED ADOLESCENTS. 089080 13-15
- MODERN DRUG TREATMENT AND POTENTIAL HAZARDS TO HEALTH.** 103047 13-17
- HEAD**  
ROLE OF CENTRAL SEROTONINERGIC PROCESSES IN DEVELOPMENT OF HEAD TWITCHES IN MICE AND RATS UNDER THE INFLUENCE OF TRYPTOPHAN. 109920 13-02
- HEADACHES**  
TYBAMATE IN TREATMENT RESISTANT HEADACHES. 092162 13-07
- HEALTH**  
BEHAVIOR AND HOW IT IS AFFECTED BY DRUGS IS BEING INVESTIGATED BY THE NORTH-CAROLINA DEPARTMENT OF MENTAL HEALTH BY USING SPIDERS AS LABORATORY ANIMALS. 086126 13-04
- MODERN DRUG TREATMENT AND POTENTIAL HAZARDS TO HEALTH.** 103047 13-17
- COOPERATIVE STUDIES IN MENTAL HEALTH AND BEHAVIORAL SCIENCES.** 109315 13-17
- HEALTHY**  
THE EFFECTS OF DIAZEPAM OR DIPHENHYDRAMINE ON HEALTHY HUMAN SUBJECTS. 102194 13-14
- HEART**  
THE EFFECTS OF PHENOTHIAZINE MEDICATION ON SKIN CONDUCTANCE AND HEART RATE IN SCHIZOPHRENIC PATIENTS. 085015 13-08
- THE EFFECT OF INTRAVENOUS ETHYL-ALCOHOL ON THE CORONARY CIRCULATION AND MYOCARDIAL CONTRACTILITY OF THE HUMAN AND CANINE HEART.** 087032 13-13
- THE INFLUENCE OF HYPOTHERMIA ON CHLORPROMAZINE INDUCED METABOLIC CHANGES IN MOUSE HEART AND BRAIN.** 088641 13-03
- ENHANCEMENT OF FATTY ACID OXIDATION AND MEDIUM CHAIN FATTY ACYL COENZYME A SYNTHETASE BY ADENINE NUCLEOTIDES IN RAT HEART HOMOGENATES.** 089434 13-03
- DRUGS AND THE FETAL HEART RATE.** 102288 13-13
- EFFECTS OF CHLORPROMAZINE AND PROPRANOLOL ON LEFT VENTRICULAR SYSTOLIC PRESSURE, ECG, AND POTASSIUM ION EFFLUX IN THE ISOLATED PERFUSED RAT HEART.** 103311 13-03
- EFFECT OF 6-HYDROXYDOPAMINE ON RAT HEART NORADRENALINE.** 104172 13-03
- RELEASE OF CATECHOLAMINE FROM THE CAT HEART BY SOME DIRECTLY AND INDIRECTLY ACTING SYMPATHOMIMETIC AMINES.** 108288 13-03
- TRICYCLIC ANTIDEPRESSANTS AND HEART DISEASE.** 111564 13-15
- TRICYCLIC ANTIDEPRESSANTS AND HEART DISEASE.** 111724 13-15
- FORMATION OF (3H)NORADRENALINE AND (3H)DOPAMINE IN THE BRAIN AND HEART OF THE RAT FETUS.** 115310 13-03
- EFFECTS OF CHLORPROMAZINE, DL-PROPRANOLOL, AND D-PROPRANOLOL IN THE ISOLATED RAT HEART: MODIFICATION OF THE RESPONSE TO ISOPRENALINE AND GLUCAGON.** 120719 13-03
- HEARTS**  
CHRONIC DOPA TREATMENT: EFFECT ON THE CONCENTRATION OF NOREPINEPHRINE IN THE HEARTS AND BRAINS OF RATS. 083161 13-03
- HEAT**  
ACTIVATION OF BRAIN SEROTONIN METABOLISM BY HEAT: ROLE OF MIDBRAIN RAPHE NEURONS. 092374 13-03
- HELIX-ASPERSA**  
STRUCTURE-ACTIVITY STUDIES ON A 5-HYDROXYTRYPTAMINE RECEPTOR OF HELIX-ASPERSA NEVRONES. 120408 13-03

- HELIX-POMATIA**  
ACTION OF IMIPRAMINE ON 5-HYDROXYTRYPTAMINERGIC TRANSMISSION AND ON 5-HYDROXYTRYPTAMINE UPTAKE IN THE SNAIL (HELIX-POMATIA) BRAIN. 120411 13-03
- HEMICHOLINIUM**  
DIFFERENTIAL ANTAGONISM BETWEEN DMAE (A HEMICHOLINIUM DERIVATIVE) AND ATROPINE ON CONTRACTILE RESPONSES OF THE RAT ILEUM. 104327 13-03
- HEMOPEFUSION**  
RESIN HEMOPERFUSION: A NEW TREATMENT FOR ACUTE DRUG INTOXICATION. 089039 13-16
- HEPATIC**  
USE OF HEPATIC MICROSOMES IN THE PREPARATION OF MODEL DRUG METABOLITES. 086700 13-03  
DAILY RHYTHMIC CHANGES IN HEPATIC PHENYLALANINE HYDROXYLASE ACTIVITY: ROLE OF DIETARY PHENYLALANINE. 088557 13-03  
GAS CHROMATOGRAPHIC ANALYSIS OF CHLORPROMAZINE AND ITS METABOLITES FORMED BY HEPATIC MICROSOMES - I. INFLUENCE OF MAGNESIUM. 102695 13-03  
DIURNAL VARIATION OF HEPATIC AMPHETAMINE CONCENTRATIONS IN MICE FED FREELY AND FED SINGLE DAILY MEALS. 106425 13-03  
INTERACTIONS OF DELTA<sup>9</sup>-TETRAHYDROCANNABINOL WITH THE HEPATIC MICROSOMAL DRUG METABOLIZING SYSTEM. 107865 13-03  
RAT STRAIN DIFFERENCES IN THE ACTIVITY OF HEPATIC MICROSOMAL ENZYMES. 118564 13-03  
HYDROXYLATION OF TRANS-DELTA<sup>1</sup>-TETRAHYDROCANNABINOL BY A HEPATIC MICROSOMAL MONOOXYGENASE. 122580 13-03
- HEPATOLENTICULAR**  
CASE REPORT OF AN UNUSUAL COURSE OF HEPATOLENTICULAR DEGENERATION. 087019 13-15  
OUR EXPERIENCE WITH TREATMENT OF HEPATOLENTICULAR DEGENERATION WITH PENICILLAMINE. 101418 13-11
- HEPATOTOXICITY**  
HEPATOTOXICITY OCCURRING WITH THIORIDAZINE THERAPY. 087268 13-15
- HEROIN**  
ACUTE MYOGLOBINURIA ASSOCIATED WITH HEROIN ADDICTION. 090662 13-15  
ACTIONS AND METABOLISM OF HEROIN ADMINISTERED BY CONTINUOUS INTRAVENOUS INFUSION TO MAN. 100417 13-13  
THE PSYCHOTIC HEROIN ADDICT. 111517 13-14  
SOME PHARMACOLOGICAL PERSPECTIVES ON THE OPIATE NARCOTICS WITH SPECIAL CONSIDERATION OF HEROIN. 111518 13-14
- HEXAHYDROBENZODIAZEPINOXAZOLONE**  
THE SAFETY TEST OF 10-CHLORO-11B-(2-CHLOROPHENYL)-2,3,5,6,7,11 HEXAHYDROBENZODIAZEPINOXAZOLONE (CS-370). 116383 13-15
- HEXAMETHONIUM**  
ENTRY AND DISTRIBUTION OF HEXAMETHONIUM IN THE CENTRAL NERVOUS SYSTEM. 105706 13-03
- HEXOBARBITAL**  
THE METABOLISM OF HEXOBARBITAL IN MICE AND METHODOLOGY FOR ISOLATION AND QUANTITATION OF ITS METABOLITES IN VIVO AND IN VITRO. 082782 13-03  
EFFECT OF DIPHENYLHYDANTOIN ON HEXOBARBITAL SLEEP TIME IN MICE AND RATS. 107944 13-03  
HEXOBARBITAL SLEEPING TIME AND AMPHETAMINE MOTILITY AFTER SUBCHRONIC TETRAHYDROCANNABINOL TREATMENT. 123284 13-03  
CHANGES IN A HEXOBARBITAL ANESTHESIA THRESHOLD IN RATS INDUCED BY REPEATED LONG-TERM TREATMENT WITH BARBITAL OR ETHANOL. 125248 13-03  
SEX DIFFERENCE IN THE METABOLISM OF HEXOBARBITAL IN THE MONGOLIAN GERBIL (MERIONES-UNGUICULATUS). 125329 13-03
- HEXOBARBITONE**  
INTERACTION AND ACUTE CROSS-TOLERANCE BETWEEN ETHANOL AND HEXOBARBITONE IN THE RAT. 087344 13-04
- HF-1954**  
RESULTS OF A DOUBLE-BLIND EXPERIMENT WITH HF-1954 (8-CHLORO-11-(4-METHYL-1-PIPERAZINYL) 5H DIBENZODIAZEPINE) COMPARED WITH LEVOMEPRIMAZINE. 099302 13-08
- HIGH-DOSAGE**  
MENTAL EFFECTS OF HIGH-DOSAGE LEVODOPA. 071597 13-11  
TOXIC PSYCHOSIS INDUCED BY HIGH-DOSAGE CHLORPROMAZINE THERAPY. 089350 13-15
- HIPPOCAMPAL**  
SUPPRESSION OF HIPPOCAMPAL DFP DISCHARGES BY CHLORPROMAZINE, IMIPRAMINE AND DESIPRAMINE. 088733 13-03  
EFFECTS OF SCOPOLAMINE ON HIPPOCAMPAL THETA AND CORRELATED DISCRIMINATION PERFORMANCE. 102390 13-04  
THE INFLUENCE OF BARBITURATES ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCL. 104375 13-03  
INFLUENCE OF CHLORDIAZEPOXIDE ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCL. 104376 13-03
- HIPPOCAMPUS**  
DEFICIT IN ACTIVE AVOIDANCE LEARNING IN RATS FOLLOWING PENICILLIN INJECTION INTO HIPPOCAMPUS. 095382 13-04  
ELECTROENCEPHALOGRAPHIC STUDIES ON CODEINE DEPENDENCE IN RAT WITH SPECIAL REFERENCE TO THE SPIKE FORMATION IN THE HIPPOCAMPUS DURING ABSTINENCE SYNDROME. 098304 13-03  
THE INFLUENCE OF HARMINE ON THE BIOELECTRICAL ACTIVITY IN THE RAT HIPPOCAMPUS. 124106 13-03
- HISTAMINE**  
BRAIN HISTAMINE, RAPID APPARENT TURNOVER ALTERED BY RESTRAINT AND COLD STRESS. 078017 13-03  
CHLORPROMAZINE INDUCED HISTAMINE RELEASE AND LIPOLYSIS IN CANINE ADIPOSE TISSUE IN SITU. 099647 13-03  
EFFECT OF THIAZOL-4-YLMETHOXYAMINE, A NEW INHIBITOR OF HISTAMINE BIOSYNTHESIS ON BRAIN HISTAMINE, MONGAMINE LEVELS AND BEHAVIOR. 101541 13-03  
AUTORADIOGRAPHY OF SOME SUSPECTED NEUROTRANSMITTER SUBSTANCES: GABA GLYCINE, GLUTAMIC ACID, HISTAMINE, DOPAMINE, AND L-DOPA. 109417 13-03  
MODIFICATION OF AN OPERANT CONDITIONING IN RAT AFTER A SUBCUTANEOUS INJECTION OF HISTAMINE. 119914 13-04  
STUDIES ON THE FUNCTIONAL ROLE OF ADENOSINE 3,5 MONOPHOSPHATE, HISTAMINE, AND PROSTAGLANDIN E<sub>1</sub> IN THE CENTRAL NERVOUS SYSTEM. 120949 13-14  
REDUCTION OF HISTAMINE IN MOUSE BRAIN BY NL (DL-SERYL)-N2-(2,3,4 TRIHYDROXYBENZYL) HYDRAZINE AND RESERPINE. 122546 13-03
- HISTORICAL**  
HISTORICAL AND BIOLOGICAL ASPECTS OF PSYCHOCHEMISTRY. 093646 13-17
- HISTORIES**  
CLINICAL HYPOTHYROIDISM OCCURRING DURING LITHIUM TREATMENT: TWO CASE HISTORIES AND A REVIEW OF THYROID FUNCTION IN 19 PATIENTS. 101061 13-15
- HISTORY**  
LIFE HISTORY AND SYMPTOMS IN SCHIZOPHRENIA. 095221 13-08  
LITHIUM CARBONATE: A SURVEY OF THE HISTORY AND CURRENT STATUS OF LITHIUM IN TREATING MOOD DISORDERS. (UNPUBLISHED PAPER). 106053 13-09  
THE DRUG HISTORY OF PSYCHIATRIC ADMISSIONS. 107597 13-17
- HOLE**  
STUDIES OF THE SPONTANEOUS MOVEMENT OF ANIMALS BY THE HOLE CROSS TEST; EFFECT OF 2-DIMETHYLAMINOETHANOL AND ITS ACYL ESTERS ON THE CENTRAL NERVOUS SYSTEM. 120930 13-03
- HOME**  
BEHAVIOR PROBLEMS IN NURSING HOME PATIENTS: TREATMENT WITH THIORIDAZINE. 086894 13-14  
REPORT ON THE USE OF A NEW GERIATRIC DRUG IN A HOME FOR THE AGED AND NURSING HOME. 098451 13-11

## Subject Index

### HOMOGENATES

ENHANCEMENT OF FATTY ACID OXIDATION AND MEDIUM CHAIN FATTY ACYL COENZYME A SYNTHETASE BY ADENINE NUCLEOTIDES IN RAT HEART HOMOGENATES. 089434 13-03

GABA UPTAKE IN RAT CENTRAL NERVOUS SYSTEM: COMPARISON OF UPTAKE IN SLICES AND HOMOGENATES AND THE EFFECTS OF SOME INHIBITORS. 104007 13-03

METABOLISM OF DELTA9-TETRAHYDROCANNABINOL BY LUNG AND LIVER HOMOGENATES OF RATS TREATED WITH METHYLCHOLANTHRENE. 104765 13-03

A COMPARATIVE STUDY ON THE METABOLISM OF 3,4-DIMETHOXYPHENYLETHYLAMINE-C14 AND Mescaline-C14 BY RABBIT, MOUSE AND RAT BRAIN HOMOGENATES. 106527 13-03

COMPOUNDS ANTAGONISTIC TO NOREPINEPHRINE RETENTION BY RAT BRAIN HOMOGENATES. 108289 13-03

### HOMOSEXUAL

HOMOSEXUAL ACTIVITY IN MALE RATS AFTER P-CHLOROPHENYLANILINE: EFFECTS OF HYPOPHYSECTOMY AND TESTOSTERONE. 102096 13-04

### HOMOVANILLIC

EFFECT OF ANESTHETIC DOSES OF GAMMA-HYDROXYBUTYRATE ON SUBCORTICAL CONCENTRATION OF HOMOVANILLIC ACID. 086813 13-03

### HOODED

THE EFFECTS OF EPINEPHRINE AND CHLORPROMAZINE ON VISUAL CLIFF BEHAVIOR IN HOODED AND ALBINO RATS. 088070 13-04

### HORDENINE

CACTUS ALKALOIDS X: ISOLATION OF HORDENINE AND N-METHYLTYRAMINE FROM ARIOCARPUS-KOTSCHOUBEYANUS. 079413 13-01

### HORMONAL

HORMONAL INFLUENCES ON FEAR MOTIVATED RESPONSES. 093112 13-14

### HORMONE

A BARBITURATE LIKE EFFECT OF ADRENOCORTICOTROPIC HORMONE ON THE PARTIAL REINFORCEMENT ACQUISITION AND EXTINCTION EFFECTS. 082858 13-04

HORMONE THERAPY DURING THE CLIMACTERIUM. 089216 13-11

THYROID HORMONE BINDING PROTEINS AND ACUTE PSYCHIATRIC ILLNESS. 098733 13-14

PSYCHOSEXUAL EFFECTS OF HORMONE THERAPY. 099658 13-13

MONOAMINES AND OVARIAN HORMONE LINKED SEXUAL AND EMOTIONAL CHANGES: A REVIEW. 110462 13-17

### HORMONES

DRUG INTERFERENCE WITH MEASUREMENT OF ADRENAL HORMONES IN URINE: ANALGESICS AND TRANQUILIZER SEDATIVES. 104427 13-13

ATTEMPT TO TREAT STUPOROUS STATES WITH FLUPHENAZINE COMBINED WITH CERTAIN HORMONES. 125787 13-08

### HOSPITAL

A STUDY OF HOSPITAL STAFF ATTITUDES CONCERNING THE COMPARATIVE MERITS OF ANTIBIOTICS. 069516 13-17

COMBINATION MEDICATIONS IN PSYCHIATRIC TREATMENT: PATTERNS IN A GROUP OF ELDERLY HOSPITAL PATIENTS. 086704 13-14

A COMPARISON BETWEEN CHLORPROMAZINE AND THIOTHIXENE IN A VETERANS ADMINISTRATION HOSPITAL POPULATION. 099887 13-08

THE TREATMENT OF ACUTE ALCOHOLISM IN A SMALL RURAL HOSPITAL. 105040 13-17

THE MANAGEMENT OF EXCITEMENT IN A GENERAL HOSPITAL PSYCHIATRIC WARD BY HIGH DOSAGE HALOPERIDOL. 115398 13-14

CLINICAL STUDY OF THE EFFECT OF SUSTAINED RELEASE THIORIDAZINE IN LONG-TERM PSYCHIATRIC HOSPITAL PATIENTS. 121457 13-07

### HOSPITALIZATION

THE HOSPITALIZATION PRONENESS SCALE AS A PREDICTOR OF RESPONSE TO PHENOTHIAZINE TREATMENT. 092770 13-08

### HOSPITALIZED

TREATMENT OF HOSPITALIZED ALCOHOLICS WITH DOXEPIN AND DIAZEPAM: A CONTROLLED STUDY. 073606 13-11

## Psychopharmacology Abstracts

INFLUENCE OF SEX OF HOSPITALIZED SCHIZOPHRENICS ON THERAPEUTIC DOSAGE LEVELS OF NEUROLEPTICS. 079314 13-17

DRUG TREATMENT OF HOSPITALIZED PSYCHIATRIC PATIENTS. 089849 13-11

HALOPERIDOL VERSUS THIORIDAZINE FOR HOSPITALIZED PSYCHOGERIATRIC PATIENTS: DOUBLE-BLIND STUDY. 096021 13-11

A SYSTEMATIC CLINICAL STUDY WITH NICOTINIC ACID, THIORIDAZINE, FLUOXYMESTERONE AND THEIR COMBINATIONS IN HOSPITALIZED GERIATRIC PATIENTS: THERAPEUTIC RESULTS AND CHANGES IN PSYCHOMETRIC TEST PERFORMANCE. 098507 13-11

COMPARATIVE EVALUATION OF DIAZEPAM (VALIUM) AND PHENOBARBITAL FOR THE RELIEF OF ANXIETY RELATED SYMPTOMS IN PATIENTS HOSPITALIZED FOR ACUTE MYOCARDIAL INFARCTION. 100626 13-14

SERUM FOLIC ACID AND PHENYTOIN LEVELS IN PERMANENTLY HOSPITALIZED EPILEPTIC PATIENTS RECEIVING ANTICONVULSANT DRUG THERAPY. 108727 13-15

### HUMAN

LOW LEVEL CARBON MONOXIDE EXPOSURE AND HUMAN PSYCHOMOTOR PERFORMANCE. 078163 13-14

SCREENING FOR AMPHETAMINE IN HUMAN URINE. 082816 13-06

EFFECTS OF PSYCHOACTIVE DRUGS ON CONFLICT AVOIDANCE BEHAVIOR IN HUMAN SUBJECTS. 086572 13-14

CYTOGENETIC EFFECTS OF ETHANOL IN HUMAN LEUKOCYTE CULTURES. 086699 13-13

SOME CRITICAL CONSIDERATIONS ON HUMAN CONDITIONING IN PSYCHOPHARMACOLOGY. 086768 13-17

CL-67772: A PRELIMINARY EVALUATION OF A POTENTIAL ANTIDEPRESSANT COMPOUND: ANIMAL AND HUMAN CORRELATIONS. 086893 13-11

THE EFFECT OF INTRAVENOUS ETHYL-ALCOHOL ON THE CORONARY CIRCULATION AND MYOCARDIAL CONTRACTILITY OF THE HUMAN AND CANINE HEART. 087032 13-13

THE EFFECT OF DRUGS UPON THE UPTAKE OF 5-HYDROXYTRYPTAMINE AND METARAMINOL BY HUMAN PLATELETS. 087116 13-03

METABOLISM OF CHLORPROMAZINE AND P-NITROBENZOIC ACID IN THE LIVER, INTESTINE AND KIDNEY OF THE HUMAN FETUS. 088540 13-13

THE PSYCHEDELIC MYSTICAL EXPERIENCE IN THE HUMAN ENCOUNTER WITH DEATH. 089185 13-12

THE USE OF DRUGS IN THE SEARCH FOR A HUMAN APHRODISIAC EXPERIENCE. 094689 13-17

EFFECT OF LITHIUM ON HUMAN AGGRESSION. 095220 13-09

EFFECTS OF 5-HYDROXYTRYPTOPHAN ON THE SLEEP OF NORMAL HUMAN SUBJECTS. 098149 13-14

BRAIN CATECHOLAMINES AND HUMAN SLEEP. 099063 13-14

ON THE EFFECT OF MELATONIN UPON HUMAN BRAIN: ITS POSSIBLE THERAPEUTIC IMPLICATIONS. 101657 13-14

THE EFFECTS OF DIAZEPAM OR DIPHENHYDRAMINE ON HEALTHY HUMAN SUBJECTS. 102194 13-14

CHLORPROMAZINE AND HUMAN SLEEP. 105007 13-14

HUMAN PROBLEMS AND CHEMICAL SOLUTIONS. 106159 13-17

SOME BRONCHOCONSTRICTING AND BRONCHODILATING RESPONSES OF HUMAN ISOLATED BRONCHI: EVIDENCE FOR THE EXISTENCE OF ALPHA-ADRENORECEPTORS. 106429 13-13

DEBRISOQUINE, GUANETHIDINE, PROPRANOLOL AND HUMAN SLEEP. 110189 13-14

DIFFERENTIAL EFFECT OF ATROPINE AND HYOSCINE ON HUMAN LEARNING CAPACITY. 120416 13-14

STUDIES ON DEOXYRIBONUCLEIC ACID METABOLISM IN HUMAN CELLS TREATED WITH LYSERGIC ACID DIETHYLAMIDE. 120470 13-13

THE EFFECT OF STIMULANT DRUGS ON HUMAN FIGURE DRAWINGS IN CHILDREN WITH MINIMAL BRAIN DYSFUNCTION. 125254 13-14

- HUMANS**  
BIOLOGICAL DISPOSITION OF PENTYLENETETRAZOL-10-14C IN RATS AND HUMANS. 087061 13-03  
COMPARISON OF METABOLISM OF Mescaline AND 3,4 DIMETHOXYPHENYLETHYLAMINE IN HUMANS. 098095 13-13  
PHARMACOKINETICS OF DIAZEPAM IN DOGS, MICE AND HUMANS. 106616 13-13
- HUNGER**  
HUNGER AND APPETITE AFTER SINGLE-DOSES OF MARIHUANA, ALCOHOL, AND DEXTROAMPHETAMINE. 069320 13-13
- HUNTINGTONS**  
AMANTADINE AND HUNTINGTONS CHOREA. 102751 13-11
- HVA**  
EFFECTS OF ALPHA-METHYLTYROSINE ON THE CEREBROSPINAL FLUID CONTENT OF HVA AND 5-HIAA IN MAN. 104570 13-13
- HYDANTOINS**  
ADVERSE EFFECTS OF HYDANTOINS. 108798 13-15
- HYDRATE**  
EFFECTS OF CHLORAL HYDRATE, PARALDEHYDE, AND ETHANOL ON THE METABOLISM OF (14C) SEROTONIN IN THE RAT. 077868 13-03  
CARDIAC ARRHYTHMIA IN A CHILD DUE TO CHLORAL HYDRATE INGESTION. 077912 13-15
- HYDRAZINE**  
REDUCTION OF HISTAMINE IN MOUSE BRAIN BY NL (DL-SERYL)-N2-(2,3,4 TRIHYDROXYBENZYL) HYDRAZINE AND RESERPINE. 122546 13-03
- HYDRAZINES**  
EFFECTS OF VARIOUS HYDRAZINES UPON THE METABOLISM OF GAMMA-AMINOBUTYRIC ACID (GABA)-1-14C BY RATS. 101704 13-03  
THE EFFECT OF PHENYL-ALKYL HYDRAZINES ON CAT BLOOD PRESSURE. 122046 13-03
- HYDROCORTISONE**  
EFFECTS OF HYDROCORTISONE AND CYCLOHEXIMIDE ON BLOOD-BRAIN BARRIER FUNCTION IN THE RAT. 078949 13-03  
REGIONAL AND SUBCELLULAR CHANGES IN THE CONCENTRATION OF 5-HYDROXYTRYPTAMINE AND 5-HYDROXYINDOLEACETIC ACID IN THE RAT BRAIN CAUSED BY HYDROCORTISONE, DL-ALPHA-METHYLTRYPTOPHAN, L-KYNURENINE AND IMMOBILIZATION. 104538 13-03
- HYDROLYSING**  
SPECIES AND AGE DIFFERENCES IN THE ACTIVITY OF ISOCARBOXAZID HYDROLYSING ENZYME. 104324 13-03
- HYDROLYSIS**  
HYDROXYINDOLE-O-METHYLTRANSFERASE V: EFFECTS OF SUBSTITUENTS ON HYDROLYSIS OF N-ACYLTRYPTAMINES IN RATS. 082761 13-03  
HYDROLYSIS: A REQUISITE FOR MORPHINE DETECTION IN URINE. 086892 13-16
- HYDROXYAMYLORBARBITONE**  
THE EXCRETION OF HYDROXYAMYLORBARBITONE IN MAN AFTER ORAL ADMINISTRATION OF AMYLORBARBITONE AND HYDROXYAMYLORBARBITONE. 122552 13-13
- HYDROXYINDOLE-O-METHYLTRANSFERASE**  
HYDROXYINDOLE-O-METHYLTRANSFERASE V: EFFECTS OF SUBSTITUENTS ON HYDROLYSIS OF N-ACYLTRYPTAMINES IN RATS. 082761 13-03  
HYDROXYINDOLE-O-METHYLTRANSFERASE VI: INHIBITORY ACTIVITIES OF SUBSTITUTED BENZOYLTRYPTAMINES AND BENZENESULFONYLTRYPTAMINES. 082762 13-01
- HYDROXYLASE**  
EFFECT OF ACUTE AND CHRONIC ADMINISTRATION OF ETHANOL ON THE 5-HYDROXYTRYPTAMINE TURNOVER AND TRYPTOPHAN HYDROXYLASE ACTIVITY OF THE MOUSE BRAIN. 088284 13-03  
DAILY RHYTHMIC CHANGES IN HEPATIC PHENYLALANINE HYDROXYLASE ACTIVITY: ROLE OF DIETARY PHENYLALANINE. 088557 13-03  
EFFECTS OF LONG-TERM RESERPINE TREATMENT ON BRAIN TYROSINE HYDROXYLASE AND BEHAVIORAL ACTIVITY. 101718 13-04  
BEHAVIORAL EFFECTS OF HALOPERIDOL AFTER TYROSINE HYDROXYLASE INHIBITION. 104171 13-04
- POTENTIATION OF HALOPERIDOL BY TYROSINE HYDROXYLASE INHIBITION. 123269 13-03  
EFFECTS OF NIGRAL LESION AND CHLORPROMAZINE TREATMENT ON TYROSINE HYDROXYLASE ACTIVITY IN CORPUS-STRIATUM OF THE RAT. 123281 13-03
- HYDROXYLATION**  
HYDROXYLATION OF TRANS-DELTA1-TETRAHYDROCANNABINOL BY A HEPATIC MICROSOMAL MONOOXYGENASE. 122580 13-03
- HYDROXYTRYPTAMINE**  
VARIATION IN HYDROXYTRYPTAMINE METABOLISM IN THE RAT, EFFECTS ON THE NEUROCHEMICAL RESPONSE TO PHENCYCLIDINE. 105403 13-03
- HYDROXYZINE**  
THE EFFECTS OF HYDROXYZINE ON WATER MAZE PERFORMANCE. (PH.D. DISSERTATION). 109636 13-04
- HYOSCINE**  
DIFFERENTIAL EFFECT OF ATROPINE AND HYOSCINE ON HUMAN LEARNING CAPACITY. 120416 13-14
- HYPERACTIVE**  
PILLS FOR LEARNING: DISPUTE FAILS TO HALT USE OF DRUGS TO CALM HYPERACTIVE CHILDREN. 078100 13-17  
MANAGEMENT OF HYPERACTIVE BEHAVIOR IN CHILDREN. 080564 13-17  
AN ADDITIONAL OBSERVATION ON METHYLPHENIDATE IN HYPERACTIVE CHILDREN. 085408 13-15  
COGNITIVE STYLES IN HYPERACTIVE CHILDREN AND THE EFFECT OF METHYLPHENIDATE. 099939 13-11  
ATTENTION IN HYPERACTIVE CHILDREN AND THE EFFECT OF METHYLPHENIDATE (RITALIN). 101643 13-11  
EFFECT OF LITHIUM CARBONATE, PLACEBO, AND THIORIDAZINE ON HYPERACTIVE CHILDREN. 101684 13-11  
TREATING HYPERACTIVE CHILDREN. 102612 13-17  
PLAYROOM OBSERVATIONS OF HYPERACTIVE CHILDREN ON MEDICATION. 104308 13-11  
THE EFFECT OF METHYLPHENIDATE ON ATTENTIVE BEHAVIOR AND AUTONOMIC ACTIVITY IN HYPERACTIVE CHILDREN. 111147 13-14
- HYPERACTIVITY**  
STUDIES IN VIVO ON THE RELATIONSHIP BETWEEN BRAIN TRYPTOPHAN, BRAIN 5-HT SYNTHESIS AND HYPERACTIVITY IN RATS TREATED WITH A MONOAMINE OXIDASE INHIBITOR AND L-TRYPTOPHAN. 087124 13-03  
THE EFFECT OF DRUGS ON HYPERACTIVITY IN CHILDREN WITH SOME OBSERVATIONS OF CHANGES IN MINERAL METABOLISM. 098894 13-14  
INHIBITORY EFFECT OF CHLORPROMAZINE ON THE SYNDROME OF HYPERACTIVITY PRODUCED BY L-TRYPTOPHAN OR 5-METHOXY-N,N DIMETHYLTRYPTAMINE TREATED WITH A MONOAMINE OXIDASE INHIBITOR. 108795 13-03
- HYPERALGESIA**  
MORPHINE INDUCED HYPERALGESIA IN RATS TESTED ON THE HOT PLATE. 086105 13-04
- HYPERBARIC**  
SUSCEPTIBILITY TO AUDIOGENIC STIMULI INDUCED BY HYPERBARIC OXYGENATION AND VARIOUS NEUROACTIVE AGENTS. 119724 13-03  
THE EFFECT OF LOCAL ANESTHETICS ON THE CENTRAL NERVOUS SYSTEM TOXICITY OF HYPERBARIC OXYGEN. 122540 13-03
- HYPERBILIRUBINEMIA**  
TREATMENT OF HYPERBILIRUBINEMIA IN PREMATURE AND NEWBORN INFANTS WITH PHENOBARBITAL AND LIGHT THERAPY. 125867 13-13
- HYPERGLYCEMIA**  
PHENOTHIAZINE INDUCED HYPERGLYCEMIA: RELATION TO CNS AND ADRENAL EFFECTS. 100221 13-03
- HYPERKINESIA**  
AMPHETAMINES IN HYPERKINESIA: BETTER LEARNING THROUGH CHEMISTRY. 105485 13-14

# Subject Index

- HYPERKINESIS**  
LEARNING DISORDERS, HYPERKINESIS, AND THE USE OF DRUGS IN CHILDREN. 095499 13-14
- PHOTIC RESPONSES IN HYPERKINESIS OF CHILDHOOD. 106862 13-11
- HYPERKINETIC**  
STIMULANTS AND THE HYPERKINETIC YOUNGSTER. 079455 13-17
- PANEL SANCTIONS AMPHETAMINES FOR HYPERKINETIC CHILDREN. 089087 13-14
- THE USE OF D-AMPHETAMINE WITH HYPERKINETIC CHILDREN. 102187 13-14
- METHYLPHENIDATE AND THE HYPERKINETIC STATE. 103916 13-14
- HYPERKINETIC DOGS CALMED BY DEXAMPHETAMINE. 111215 13-14
- HYPERMAGNEAEMIA**  
RELATION OF CYPERMAGNEAEMIA TO ACTIVITY AND NEUROLEPTIC DRUG THERAPY IN SCHIZOPHRENIC STATES. 088729 13-13
- HYPERPHAGIA**  
ONTOGENY OF AMPHETAMINE ANOREXIA AND INSULIN HYPERPHAGIA IN THE RAT. 106797 13-04
- HYPERSONNIA**  
NARCOLEPSY AND HYPERSONNIA. 101819 13-14
- HYPERSYNCHRONOUS**  
INHIBITION OF PENTETRAZOL INDUCED HYPERSYNCHRONOUS ACTIVITY IN THE THALAMOCORTICAL SYSTEM BY ETHOSUXIMIDE. 098297 13-04
- HYPERTENSIVE**  
IATROGENIC PSYCHOTIC DEPRESSIVE REACTION IN HYPERTENSIVE PATIENTS. 088147 13-15
- HYPERTENSIVE CRISES DURING MAO THERAPY. 111128 13-15
- HYPERTHERMIA**  
ANTAGONISM OF D-AMPHETAMINE INDUCED HYPERTHERMIA IN RATS BY PIMOZIDE. 104472 13-03
- INHIBITION OF D-AMPHETAMINE HYPERTHERMIA BY BLOCKADE OF DOPAMINE RECEPTORS IN RABBITS. 105404 13-03
- ROLE OF BRAIN MONOAMINES IN THE FATAL HYPERTHERMIA INDUCED BY PETHIDINE OR IMIPRAMINE IN RABBITS PRETREATED WITH PARGYLINE. 109197 13-03
- HYPERTHERMIC**  
DRUG-INDUCED SUPPRESSION OF CONDITIONED HYPERTHERMIC AND CONDITIONED AVOIDANCE BEHAVIOR RESPONSE IN RATS. 104144 13-04
- HYPERTHYROTIC**  
STUDIES WITH LITHIUM IN EUTHYROTIC, HYPERTHYROTIC AND HYPOTHYROTIC RATS. 077428 13-03
- HYPNOSIS**  
EFFECTS OF CHRONIC ADMINISTRATION OF NICOTINE ON DRUG-INDUCED HYPNOSIS IN MICE. 102188 13-04
- HYPNOTIC**  
EVALUATION OF THE HYPNOTIC PROPERTIES OF PROMETHAZINE ON CHRONIC SCHIZOPHRENICS. 077430 13-08
- METHAQUALONE: EFFICACY AS A HYPNOTIC AND SIDE-EFFECTS. 082822 13-15
- L-TRYPTOPHAN AS A PHYSIOLOGICAL HYPNOTIC. 087348 13-14
- METHAQUALONE: EFFICACY AS A HYPNOTIC AND SIDE-EFFECTS. 089327 13-15
- EVALUATION OF A NEW HYPNOTIC AGENT: FLURAZEPAM HYDROCHLORIDE (DALMANE). 099933 13-07
- THE HYPNOTIC EFFECTS OF CODEINE AND SECOBARBITAL AND THEIR INTERACTION IN MAN. 104365 13-14
- EASY METHOD OF HYPNOTIC TREATMENT WITH INTRAVENOUS DIAZEPAM. 126039 13-14
- HYPNOTICS**  
HYPNOTICS AND HANGOVERS. 077704 13-14
- SAFETY OF HYPNOTICS. 082750 13-13
- THE INFLUENCE OF HYPNOTICS AND TRANQUILLIZERS ON SOME EVOKED CORTICAL POTENTIALS. 082760 13-03

# Psychopharmacology Abstracts

- HYPNOTICS AND HANGOVERS.** 083087 13-15
- HANGOVER EFFECTS OF HYPNOTICS IN MAN. 087363 13-14
- METHODOLOGIC CONSIDERATIONS OF THE EVALUATION OF HYPNOTICS IN MAN: A BIOLOGIC ASSAY OF PENTOBARBITAL AND SECOBARBITAL. 100261 13-16
- HYPOCHONDRIACAL**  
EXPERIENCE WITH TREATMENT OF INDOLENT SCHIZOPHRENIA WITH THE CENESTHOPATHIC HYPOCHONDRIACAL SYNDROME. 102669 13-08
- HYPOGLYCEMIA**  
ADRENERGIC MECHANISMS IN HYPOGLYCEMIC SHOCK IN RABBITS. II. DISORDERS OF ADRENERGIC RESPONSE COMPENSATING HYPOGLYCEMIA IN RABBITS TREATED WITH SMALL DOSES OF RESERPINE. 119648 13-03
- HYPOGLYCEMIC**  
ADRENERGIC MECHANISMS IN HYPOGLYCEMIC SHOCK IN RABBITS. II. DISORDERS OF ADRENERGIC RESPONSE COMPENSATING HYPOGLYCEMIA IN RABBITS TREATED WITH SMALL DOSES OF RESERPINE. 119648 13-03
- HYPOPHYSIOTOMIZED**  
KINETICS OF THE GLUCOCORTICOID MEDIATED INDUCTION OF PHENYLETHANOLAMINE N METHYL TRANSFERASE IN THE HYPOPHYSIOTOMIZED RAT. 108720 13-03
- HYPOPHYSIOTOMY**  
HOMOSEXUAL ACTIVITY IN MALE RATS AFTER P-CHLOROPHENYLALANINE: EFFECTS OF HYPOPHYSIOTOMY AND TESTOSTERONE. 102096 13-04
- HYPOTENSION**  
THE INFLUENCE OF BARBITURATE ANESTHESIA UPON THE ENERGY STATE AND UPON ACID BASE PARAMETERS OF THE BRAIN IN ARTERIAL HYPOTENSION AND IN ASPHYXIA. 095999 13-03
- REVERSAL OF CHLORPROMAZINE INDUCED HYPOTENSION BY CALCIUM CHLORIDE IN DOGS. 119691 13-04
- HYPOTHALAMIC**  
NOREPINEPHRINE: REVERSAL OF ANOREXIA IN RATS WITH LATERAL HYPOTHALAMIC DAMAGE. 077880 13-04
- DECREASED SEPTAL FOREBRAIN AND LATERAL HYPOTHALAMIC REWARD AFTER ALPHA-METHYL-P-TYROSINE. 086681 13-04
- EFFECT OF FENFLURAMINE ON THE ELECTRICAL ACTIVITY OF THE HYPOTHALAMIC FEEDING CENTERS. 102391 13-03
- EFFECT OF HASHISH SMOKE SUBLIMATE ON HYPOTHALAMIC NORADRENALINE STUDIED BY THE FLUORESCENCE METHOD. 106486 13-03
- THE EFFECT OF IMIPRAMINE AND SELECTED DRUGS ON ATTACK ELICITED BY HYPOTHALAMIC STIMULATION IN THE CAT. 107960 13-04
- HYPOTHALAMONEUROHYPOPHYSEAL**  
EFFECT OF RESERPINE ON THE HYPOTHALAMONEUROHYPOPHYSEAL NEUROSECRETORY SYSTEM. 111130 13-03
- HYPOTHALAMUS**  
COMPARATIVE EFFECTS OF P-CHLORDAMPHETAMINE AND AMPHETAMINE ON METABOLISM AND IN VIVO RELEASE OF 3H-NOREPINEPHRINE IN THE HYPOTHALAMUS. 086814 13-03
- INCREASED RATE OF NORADRENALINE CIRCULATION IN THE HYPOTHALAMUS AFTER DEMYELINATION OF THE ADRENAL GLANDS. 111704 13-03
- HYPOTHERMIA**  
THE INFLUENCE OF HYPOTHERMIA ON CHLORPROMAZINE INDUCED METABOLIC CHANGES IN MOUSE HEART AND BRAIN. 088641 13-03
- CHLORPROMAZINE INDUCED HYPOTHERMIA AND INCREASED PLASMA CREATINE PHOSPHOKINASE ACTIVITY. 108280 13-03
- HYPOTHERMIC**  
ACUTE TOLERANCE TO THE HYPOTHERMIC EFFECT OF MARIJUANA IN THE RAT. 085487 13-13
- RELATIONSHIP BETWEEN DEPLETION OF NOREPINEPHRINE IN THE BRAIN AND THE HYPOTHERMIC EFFECT OF APOMORPHINE IN MICE. 113523 13-03
- HYPOTHESIS**  
THE EFFECTS OF A TRANQUILIZER ON THE IMMOBILITY REACTION IN CHICKENS: ADDITIONAL SUPPORT FOR THE FEAR HYPOTHESIS. 088069 13-04

- THE EFFECTS OF MEPROBAMATE ON RISK-TAKING BEHAVIOR: A TEST OF WITTENBORNS HYPOTHESIS. (PH.D. DISSERTATION). 118619 13-14
- HYPOTHYROIDISM**  
CLINICAL HYPOTHYROIDISM OCCURRING DURING LITHIUM TREATMENT: TWO CASE HISTORIES AND A REVIEW OF THYROID FUNCTION IN 19 PATIENTS. 101061 13-15  
AFFECTIVE DISTURBANCE IN HYPOTHYROIDISM. 101896 13-09
- HYPOTHYROTIC**  
STUDIES WITH LITHIUM IN EUTHYROTIC, HYPERTHYROTIC AND HYPOTHYROTIC RATS. 077428 13-03
- HYPOTONIC**  
MEDICATION TREATMENT OF VASCULAR HYPOTONIC CONDITION PICTURES. 095131 13-13
- HYPOXIA**  
BEHAVIORAL TOLERANCE OF SQUIRREL MONKEYS TO HYPOXIA: A MODEL FOR EVALUATING DRUG THERAPY. 091102 13-06  
PHARMACOLOGICAL PROTECTION AGAINST HYPOXIA INDUCED AMNESIA IN RATS. 104145 13-04
- H3-GAMMA-AMINOBUTYRIC**  
BLOOD-BRAIN BARRIER TO H3-GAMMA-AMINOBUTYRIC ACID IN NORMAL AND AMINOXYACETIC ACID TREATED ANIMALS. 082756 13-03
- H3-LYSERGIC**  
H3-LYSERGIC ACID DIETHYLAMIDE: CELLULAR AUTORADIOGRAPHIC LOCALIZATION IN RAT BRAIN. 098956 13-03
- IATROGENIC**  
IATROGENIC PSYCHOTIC DEPRESSIVE REACTION IN HYPERTENSIVE PATIENTS. 088147 13-15
- IB-503**  
EVALUATION OF THE THERAPEUTIC SIGNIFICANCE OF THE PREPARATION IB-503 ON THE BASIS OF PERSONAL CLINICAL EXPERIENCE OVER A PERIOD OF FOUR YEARS. 122947 13-09
- IDENTIFICATION**  
IDENTIFICATION AND QUANTITATIVE DETERMINATION OF SOME METABOLITES OF METHADONE, ISOMETHADONE AND NORMETHADONE. 077906 13-05  
IDENTIFICATION OF 7-HYDROXYFLUPHENAZINE AS MAJOR METABOLITE OF FLUPHENAZINE-14C IN THE DOG. 086579 13-03  
THE IDENTIFICATION, ISOLATION, AND PRESERVATION OF DELTA9-TETRAHYDROCANNABINOL (DELTA9-THC). 088583 13-01  
IDENTIFICATION OF BUFOTENIN IN TOAD BRAIN BY CHROMATOGRAPHY AND MASS SPECTROMETRY OF ITS OANS DERIVATIVE. 098685 13-03  
IDENTIFICATION OF (-)-DELTA-9-6A,10A,TRANS-TETRAHYDROCANNABINOL AND TWO OF ITS METABOLITES IN RATS BY USE OF COMBINATION GAS CHROMATOGRAPHY MASS SPECTROMETRY AND MASS FRAGMENTOGRAPHY. 102733 13-03  
PHENOTHIAZINES AND THE THERAPISTS FEAR OF IDENTIFICATION. 113928 13-17  
A SEARCH FOR UNCORRELATED THIN LAYER CHROMATOGRAPHIC SYSTEMS FOR THE IDENTIFICATION OF BASIC DRUGS. 115897 13-06
- IDENTIFIED**  
FUNCTIONING OF IDENTIFIED NEURONS AND SYNAPSES IN ABDOMINAL GANGLION OF APLYSIA IN ABSENCE OF PROTEIN SYNTHESIS. 102512 13-03
- ILEUM**  
DIFFERENTIAL ANTAGONISM BETWEEN DMAE (A HEMICHOLINIUM DERIVATIVE) AND ATROPINE ON CONTRACTILE RESPONSES OF THE RAT ILEUM. 104327 13-03
- ILLNESS**  
A COMPARATIVE TRIAL OF DOXEPIN AND AMITRIPTYLINE IN DEPRESSIVE ILLNESS. 078156 13-09  
COMMON DRUGS CAN CAUSE PSYCHIATRIC ILLNESS. 082031 13-15  
DRUG ADVERTISING AND PERCEPTION OF MENTAL ILLNESS. 085597 13-17  
CATECHOLAMINES AND AFFECTIVE ILLNESS: STUDIES WITH L-DOPA AND ALPHA-METHYL-P-TYROSINE (UNPUBLISHED PAPER). 092897 13-09
- ANTICONVULSANT DRUGS, FOLIC ACID METABOLISM, FIT FREQUENCY AND PSYCHIATRIC ILLNESS. 093822 13-15
- LITHIUM AS A THERAPEUTIC AGENT IN THE TREATMENT OF MANIC-DEPRESSIVE ILLNESS. 097549 13-09
- MECHANISM OF LITHIUM CARBONATE IN MANIC-DEPRESSIVE ILLNESS: A REVIEW. 098288 13-13
- THYROID HORMONE BINDING PROTEINS AND ACUTE PSYCHIATRIC ILLNESS. 096733 13-14
- EFFECT OF LITHIUM CITRATE ON ADRENOCORTICAL ACTIVITY IN MANIC-DEPRESSIVE ILLNESS. 100317 13-09
- BLOOD PRESSURE/PULSE RESPONSES TO INTRAVENOUS METHACHOLINE IN PSYCHIATRIC ILLNESS. 102836 13-13
- SOME CURRENT THOUGHTS ON LITHIUM CARBONATE IN MANIC-DEPRESSIVE ILLNESS BASED ON A DOUBLE-BLIND COMPARISON WITH CHLORPROMAZINE. 103627 13-09
- HASHISH AND MENTAL ILLNESS. 107421 13-14
- ILLNESSES**  
THE EFFICACY OF MESORIDAZINE (LIDANIL) IN PSYCHONEUROSES AND SOMATIC ILLNESSES. 089302 13-11  
METABOLIC ASPECTS OF AMINO ACID LOADING AND DRUG ADMINISTRATION IN ANIMAL STUDIES. AFFECTIVE ILLNESSES. 099335 13-03  
TREATMENT OF OBSESSIVE ILLNESSES AND PHOBIC ANXIETY STATES WITH CLOMIPRAMINE. 105889 13-10
- IMIDAZOLE-4-ACETIC**  
NEUROPHARMACOLOGICAL STUDIES OF IMIDAZOLE-4-ACETIC ACID ACTIONS IN THE MOUSE AND RAT. 082860 13-04
- IMIDAZOLINE**  
CLINICAL TRIAL OF IMIDAZOLINE (DH-524) AS AN ANTIDEPRESSANT. 086896 13-07
- IMIPRAMINE**  
EFFECTS OF IMIPRAMINE ON THE NA-ION DEPENDENT EXCHANGE AND RETENTION OF GAMMA-AMINOBUTYRIC ACID BY MOUSE BRAIN SUBCELLULAR PARTICLES. 077725 13-03  
KETIPRAMINE FUMARATE AS COMPARED TO IMIPRAMINE IN DEPRESSED OUTPATIENTS. 077823 13-09  
EFFECTIVENESS OF ANTIDEPRESSANT DRUGS: A TRIPLE-BLIND STUDY COMPARING IMIPRAMINE, DESIPRAMINE, AND PLACEBO. 079289 13-10  
AN ATTEMPT TO CORRELATE THE EFFECT OF IMIPRAMINE AND OF AMITRIPTYLINE WITH SOME GENETIC CHARACTERISTICS. 086077 13-13  
CHANGES IN NOREPINEPHRINE TURNOVER IN RAT BRAIN DURING CHRONIC ADMINISTRATION OF IMIPRAMINE AND PROTRIPTYLINE: A POSSIBLE EXPLANATION FOR THE DELAY IN ONSET OF CLINICAL ANTIDEPRESSANT EFFECTS. 086251 13-03  
DOUBLE-BLIND CLINICAL STUDY COMPARING DOXEPIN AND IMIPRAMINE IN DEPRESSION. 086522 13-09  
BRAIN LEVELS OF IMIPRAMINE AND DESIPRAMINE AFTER COMBINED TREATMENT WITH THESE DRUGS IN RATS. 086812 13-03  
CLINICAL AND METABOLIC STUDIES WITH IMIPRAMINE IN MAN. 088145 13-07  
SUPPRESSION OF HIPPOCAMPAL DFP DISCHARGES BY CHLORPROMAZINE, IMIPRAMINE AND DESIPRAMINE. 088733 13-03  
EFFECTS OF IMIPRAMINE, DESIPRAMINE AND MONOAMINE OXIDASE INHIBITORS ON THE METABOLISM AND PSYCHOMOTOR STIMULANT ACTIONS OF D-AMPHETAMINE IN MICE. 089027 13-04  
DRUGS OF DEPENDENCE THOUGHT NOT OF ABUSE: FENFLURAMINE AND IMIPRAMINE. 092160 13-12  
SCHOOL PHOBIA: DIAGNOSTIC CONSIDERATIONS IN THE LIGHT OF IMIPRAMINE EFFECTS. 093262 13-14  
CARDIOTOXICITY OF TRICYCLIC ANTIDEPRESSANTS: PHENOTHIAZINE AND IMIPRAMINE DERIVATIVES. 097553 13-15  
CLINICAL INVESTIGATION OF DOXEPIN IN DEPRESSED PATIENTS. PILOT OPEN STUDY, CONTROLLED DOUBLE-BLIND TRIAL VERSUS IMIPRAMINE, AND ALL-NIGHT POLYGRAPHIC STUDY. 099031 13-10

# Subject Index

# Psychopharmacology Abstracts

- THE SAFETY OF A SINGLE DAILY DOSE SCHEDULE FOR IMIPRAMINE.  
099818 13-11
- IMIPRAMINE TISSUE REPARTITION BREAKDOWN IN MAN AS RELATED TO SIX CASES OF FATAL INTOXICATION.  
100406 13-15
- IMIPRAMINE IN PRESCHOOL AUTISTIC AND SCHIZOPHRENIC CHILDREN.  
101536 13-11
- INCREASES IN SPONTANEOUS ACTIVITY FOLLOWING INTERMITTENT IMIPRAMINE ADMINISTRATION.  
102196 13-04
- ECG CHANGES IN FATAL IMIPRAMINE (TOFRANIL) INTOXICATION.  
105387 13-15
- THE EFFECT OF IMIPRAMINE AND SELECTED DRUGS ON ATTACK ELICITED BY HYPOTHALAMIC STIMULATION IN THE CAT.  
107960 13-04
- EFFECTS OF MICROIONTOPHORETIC APPLICATION OF IMIPRAMINE ON SINGLE NEURONES IN THE BRAIN STEM.  
107962 13-03
- N-DEMETHYLATION AND N-OXIDATION OF IMIPRAMINE BY RAT AND PIG LIVER MICROSOMES.  
108290 13-03
- ROLE OF BRAIN MONOAMINES IN THE FATAL HYPERTHERMIA INDUCED BY PETHIDINE OR IMIPRAMINE IN RABBITS PRETREATED WITH PARGYLINE.  
109197 13-03
- IMIPRAMINE POISONING.  
111331 13-15
- IMIPRAMINE IN THE TREATMENT OF CHILDHOOD ENURESIS.  
111658 13-11
- EEG FREQUENCY ANALYSIS IN THE TREATMENT WITH SOME ANTIDEPRESSANT DRUGS: (IMIPRAMINE, AMITRIPTYLINE, DIBENZEPINE, DIMETHACRINE).  
112289 13-09
- EFFECT OF IMIPRAMINE ON CATECHOLAMINE CONTENT IN A NEUROGENICALLY DYSTROPHIC GASTRIC WALL.  
113520 13-03
- ACTION OF IMIPRAMINE ON 5-HYDROXYTRYPTAMINERGIC TRANSMISSION AND ON 5-HYDROXYTRYPTAMINE UPTAKE IN THE SNAIL (HELIX-POMATIA) BRAIN.  
120411 13-03
- COMPARISON OF THE EFFECTS OF CYCLAZOCINE AND IMIPRAMINE ON THE CIRCADIAN SLEEP WAKING CYCLE OF THE CAT.  
121220 13-05
- INTERACTION OF IMIPRAMINE, DESMETHYLIMIPRAMINE, NORTRIPTYLINE, AND 1-NAPHTHOL WITH MICROSOMAL PREPARATIONS.  
122576 13-03
- INTRACELLULAR BINDING AND METABOLISM OF IMIPRAMINE AND IMIPRAMINE-N-OXIDE.  
122577 13-03
- ON THE DECREASE IN CONCENTRATION OF 5-HIAA IN RAT BRAIN BY IMIPRAMINE AND RELATED SUBSTANCES.  
123264 13-03
- EFFECT OF THANATOLOGIC CHANGES ON THE IMIPRAMINE CONTENT OF INTERNAL ORGANS.  
126160 13-03
- IMIPRAMINE-LIKE  
THE EFFECT OF IMIPRAMINE-LIKE DRUGS AND ANTIHISTAMINE DRUGS ON UPTAKE MECHANISMS IN THE CENTRAL NORADRENALINE AND 5-HYDROXYTRYPTAMINE NEURONS.  
107961 13-03
- IMIPRAMINE-N-OXIDE  
INTRACELLULAR BINDING AND METABOLISM OF IMIPRAMINE AND IMIPRAMINE-N-OXIDE.  
122577 13-03
- IMMATURE  
CEREBRAL LYSOSOMES. VI. THE IN VIVO UPTAKE OF TRITON-WR-1339 BY THE LYSOSOMES OF THE IMMATURE CEREBRAL CORTEX AND CEREBELLUM.  
088285 13-03
- IMMOBILITY  
THE EFFECTS OF A TRANQUILIZER ON THE IMMOBILITY REACTION IN CHICKENS. ADDITIONAL SUPPORT FOR THE FEAR HYPOTHESIS.  
088069 13-04
- IMMOBILIZATION  
BIOSYNTHESIS OF ADRENAL CATECHOLAMINES DURING ADAPTATION TO REPEATED IMMOBILIZATION STRESS (UNPUBLISHED PAPER).  
093553 13-03
- REGIONAL AND SUBCELLULAR CHANGES IN THE CONCENTRATION OF 5-HYDROXYTRYPTAMINE AND 5-HYDROXYINDOLEACETIC ACID IN THE RAT BRAIN CAUSED BY HYDROCORTISONE, DL-ALPHA-METHYLTRYPTOPHAN, L-KYNURENINE AND IMMOBILIZATION.  
104538 13-03
- IMMUNODEPRESSANT  
PSYCHIATRY AND IMMUNOLOGY. CONTRIBUTION OF THE EXPERIMENTAL STUDY OF THE IMMUNODEPRESSANT EFFECT OF A CORRECTOR OF EXTRAPYRAMIDAL SYNDROMES INDUCED BY NEUROLEPTICS. ETHYLBENZATROPINE.  
100604 13-11
- IMMUNOFLOUORESCENCE  
A METHOD FOR DETECTING INTRACELLULAR CYCLIC ADENOSINE MONOPHOSPHATE BY IMMUNOFLOUORESCENCE. (UNPUBLISHED PAPER).  
107113 13-06
- IMMUNOLOGY  
PSYCHIATRY AND IMMUNOLOGY. CONTRIBUTION OF THE EXPERIMENTAL STUDY OF THE IMMUNODEPRESSANT EFFECT OF A CORRECTOR OF EXTRAPYRAMIDAL SYNDROMES INDUCED BY NEUROLEPTICS. ETHYLBENZATROPINE.  
100604 13-11
- IMPACT  
PSYCHIATRY. THE IMPACT OF MODERN TREATMENT.  
085332 13-17
- IMPAIRED  
IMPAIRED BILIARY EXCRETION OF PHENOL 3,6 DIBROMOPHTHALEIN DISULFONATE IN NEONATAL GUINEA-PIGS.  
089284 13-03
- IMPAIRMENT  
STIMULUS SIGNIFICANCE AND CHLORPROMAZINE INDUCED IMPAIRMENT OF AVOIDANCE LEARNING IN MICE.  
082759 13-04
- FACILITATION AND IMPAIRMENT OF AVOIDANCE RESPONDING BY PHENOBARBITAL SODIUM, CHLORDIAZEPOXIDE AND DIAZEPAM - THE ROLE OF PERFORMANCE BASE LINES.  
082881 13-04
- DYSNOMIA AND IMPAIRMENT OF VERBAL MEMORY FOLLOWING INTRACAROTID INJECTION OF SODIUM AMYTAL.  
092159 13-14
- IMPAIRMENT OF RECENT MEMORY BY MARIHUANA AND THC IN RHESUS MONKEYS.  
099697 13-04
- IMPAIRMENT OF DRUG METABOLISM BY DISULFIRAM IN MAN.  
100419 13-13
- COMPARATIVE LEARNING IMPAIRMENT AND AMNESIA BY SCOPOLAMINE PHENCYCLIDINE, AND KETAMINE.  
101352 13-04
- FACILITATION OR IMPAIRMENT OF LEARNING BY D-AMPHETAMINE AS A FUNCTION OF STIMULI.  
104795 13-04
- LEARNING IMPAIRMENT AFTER THREE CLASSES OF AGENTS WHICH MODIFY CHOLINERGIC FUNCTION.  
106523 13-04
- IMPLEMENTATION  
IMPLEMENTATION OF PSYCHOTHERAPY BY LIBRIUM IN A PIONEERING RURAL INDUSTRIAL PSYCHIATRIC PRACTICE.  
096019 13-10
- IMPLOSION  
DESENSITIZATION AND FLOODING (IMPLOSION) IN TREATMENT OF PHOBIAS.  
093231 13-14
- IMPOTENCE  
TREATMENT OF PHOBIC ANXIETY AND PSYCHOGENIC IMPOTENCE BY SYSTEMATIC DESENSITIZATION EMPLOYING METHOHHEXITONE INDUCED RELAXATION.  
099320 13-10
- IMPRINTING  
EFFECTS OF METHAMPHETAMINE HYDROCHLORIDE ON IMPRINTING IN WHITE LEGHORN CHICKS.  
079760 13-14
- IMPROVEMENT  
MANIC PATIENTS IMPROVEMENT WITH METHYSERGIDE.  
085406 13-07
- PART 1. IMPROVEMENT CRITERIA IN DRUG TRIALS WITH NEUROTIC PATIENTS.  
108484 13-10
- IMPULSE  
IMPORTANCE OF NERVOUS IMPULSE FLOW FOR THE NEUROLEPTIC INDUCED INCREASE IN AMINE TURNOVER IN CENTRAL DOPAMINE NEURONS.  
120717 13-03
- CORRELATION OF THE RECOVERY OF THE GRANULAR UPTAKE STORAGE MECHANISM AND THE NERVE IMPULSE INDUCED RELEASE OF (3H)NORADRENALINE AFTER RESERPINE.  
120819 13-03
- IMPULSES  
IMPORTANCE OF CATECHOLAMINE RELEASE BY NERVE IMPULSES FOR FREE OPERANT BEHAVIOR.  
106757 13-04
- INACTIVATION  
SLOW SYNAPTIC EXCITATION. EVIDENCE FOR SYNAPTIC INACTIVATION OF POTASSIUM CONDUCTANCE (UNPUBLISHED PAPER).  
094923 13-03
- INBRED  
PROACTIVE AND RETROACTIVE EFFECTS OF DIETHYL ETHER ON SPATIAL DISCRIMINATION LEARNING IN INBRED MOUSE STRAINS DBA/2J AND C57BL/6J.  
079532 13-14

**INCORPORATION**

THE INCORPORATION OF (3H)URIDINE MONOPHOSPHATE INTO THE RAT BRAIN DURING THE TRAINING PERIOD. A MICROAUTORADIOGRAPHIC STUDY.

086805 13-03

INFLUENCE OF METHAMPHETAMINE ON INCORPORATION OF GLUCOSE INTO BRAIN GLYCOGEN.

086819 13-03

EFFECTS OF CHLORPROMAZINE ON CELL WALL BIOSYNTHESIS AND INCORPORATION OF OROTIC ACID INTO NUCLEIC ACIDS IN *BACILLUS MEGATERIUM*.

088517 13-03

EFFECT OF 6-HYDROXYDOPAMINE ON THE INCORPORATION OF 14C-LEUCINE INTO RAT BRAIN PROTEIN.

108615 13-03

PRELIMINARY REPORT ON THE INCORPORATION OF GUANETHIDINE AND RESERPINE INTO RAT PERITONEAL MAST CELLS IN VITRO.

111073 13-03

IN VIVO INCORPORATION OF LABELLED CHOLINE AND ACETYLCHOLINE IN THE VESICLES OF BRAIN NERVE ENDINGS.

123283 13-03

**INCREASE**

PHYSICAL DEPENDENCE ON MORPHINE FAILS TO INCREASE SEROTONIN TURNOVER RATE IN RAT BRAIN.

088994 13-03

AGGRESSION AND FLIGHT REACTIONS INDUCED BY CONTINUOUS INCREASE OF BLOOD OSMOLALITY.

098300 13-04

PERSISTENT INCREASE IN BRAIN SEROTONIN TURNOVER AFTER CHRONIC ADMINISTRATION OF LSD IN THE RAT.

099828 13-03

NOREPINEPHRINE STIMULATED INCREASE OF CYCLIC AMP LEVELS IN DEVELOPING MOUSE BRAIN CELL CULTURES.

100103 13-03

INCREASE OF ETHANOL, MEPROBAMATE AND PENTOBARBITAL METABOLISM AFTER CHRONIC ETHANOL ADMINISTRATION IN MAN AND IN RATS.

100792 13-13

INCREASE IN FINE MOTOR CONTROL IN PARKINSON PATIENTS FOLLOWING LEVODOPA.

108473 13-11

RUBIDIUM INDUCED INCREASE IN SHOCK ELICITED AGGRESSION IN RATS.

111144 13-04

IMPORTANCE OF NERVOUS IMPULSE FLOW FOR THE NEUROLEPTIC INDUCED INCREASE IN AMINE TURNOVER IN CENTRAL DOPAMINE NEURONS.

120717 13-03

INCREASE OF MORPHINE INDUCED ANALGESIA BY STIMULATION OF THE NUCLEUS RAPHE DORSALIS.

125653 13-03

**INCREASES**

INCREASES IN SPONTANEOUS ACTIVITY FOLLOWING INTERMITTENT IMIPRAMINE ADMINISTRATION.

102196 13-04

ALPHA-METHYLTRYPTOPHAN INCREASES 5-HYDROXYTRYPTAMINE-LIKE MATERIAL IN RAT BRAIN.

106909 13-03

THE EFFECTS OF DRUG-INDUCED INCREASES IN RIBONUCLEIC ACIDS AND PROTEINS ON MEMORY. (PH.D. DISSERTATION).

109503 13-04

**INCUBATED**

EFFECTS OF METHYLERGIDE ON PLATELETS INCUBATED WITH RESERPINE.

109195 13-03

**INDOLE**

EVALUATION OF THE ANTIPSYCHOTIC ACTIVITY OF AN INDOLE ANALOGUE, AL-1612.

100540 13-08

THE DEVELOPMENT OF SYNTHETIC TECHNIQUES TO INTRODUCE A FUNCTIONALIZED CARBON SUBSTITUENT REGIOSELECTIVELY INTO THE BENZENE RING OF AN INDOLE NUCLEUS.

112783 13-01

EFFECTS OF SEROTONIN (5-HT) AND SOME RELATED INDOLE COMPOUNDS IN A MAMMALIAN SYMPATHETIC GANGLION.

125596 13-03

**INDOLEAMINES**

INDOLEAMINES AND THE DEPRESSIONS.

099345 13-09

**INDOLENT**

EXPERIENCE WITH TREATMENT OF INDOLENT SCHIZOPHRENIA WITH THE CENESTHOPATHIC HYPOCHONDRIACAL SYNDROME.

102669 13-08

**INDUCE**

A COMPARISON OF TECHNIQUES TO INDUCE ALCOHOL DEPENDENCE AND TOLERANCE IN THE MOUSE (UNPUBLISHED PAPER).

087462 13-06

**INDUCED**

A CASE OF ORGANOPHOSPHORUS INDUCED PSYCHOSIS.

074828 13-15

ENHANCEMENT OF AMPHETAMINE INDUCED STEREOTYPED BEHAVIOR BY BENZODIAZEPINES.

078936 13-04

NALORPHINE INDUCED CHANGES IN MORPHINE SELF-ADMINISTRATION IN RHESUS MONKEYS.

082719 13-04

STIMULUS SIGNIFICANCE AND CHLORPROMAZINE INDUCED IMPAIRMENT OF AVOIDANCE LEARNING IN MICE.

082759 13-04

THE EFFECT OF P-CHLOROPHENYLALANINE ON OPIATE INDUCED RUNNING, ANALGESIA, TOLERANCE AND PHYSICAL DEPENDENCE IN MICE.

082781 13-04

MORPHINE INDUCED HYPERALGESIA IN RATS TESTED ON THE HOT PLATE.

086105 13-04

CANNABIS INDUCED VOCALIZATION IN THE RAT.

086155 13-04

CHOLINERGIC AND NEUROLEPTIC INDUCED CATALEPSY: MODIFICATION BY LESIONS IN THE CAUDATE PUTAMEN.

086899 13-03

PHARMACOLOGICALLY INDUCED PSYCHOSIS.

087189 13-15

MOTOR DISORDERS INDUCED BY NEUROLEPTICS: A PROPOSED NEW CLASSIFICATION.

088201 13-15

THE INFLUENCE OF HYPOTHERMIA ON CHLORPROMAZINE INDUCED METABOLIC CHANGES IN MOUSE HEART AND BRAIN.

088641 13-03

LONG-TERM EVOLUTION OF THE SIDE-EFFECT LENS OPACITIES INDUCED BY CHLORPROMAZINE PROLONGED THERAPY.

089189 13-15

PSYCHOSIS INDUCED BY ORAL CONTRACEPTION.

089329 13-15

THIORIDAZINE INDUCED TOXIC PSYCHOSIS.

089349 13-15

TOXIC PSYCHOSIS INDUCED BY HIGH-DOSAGE CHLORPROMAZINE THERAPY.

089350 13-15

TOXIC PSYCHOSIS INDUCED BY ASTHMA-DOR.

092693 13-15

ATTENUATION OF STIMULUS SENSITIVITY INDUCED BY SCOPOLAMINE.

095197 13-04

INTERACTION OF SEROTONIN ANTAGONISTS WITH HARMALINE INDUCED CHANGES IN OPERANT BEHAVIOR AND BODY TEMPERATURE IN THE RAT.

098160 13-03

INHIBITION OF PENTETAZOL INDUCED HYPERSYNCHRONOUS ACTIVITY IN THE THALAMOCORTICAL SYSTEM BY ETHOSUXIMIDE.

098297 13-04

AGGRESSION AND FLIGHT REACTIONS INDUCED BY CONTINUOUS INCREASE OF BLOOD OSMOLALITY.

098300 13-04

TREATMENT OF PHOBIC ANXIETY AND PSYCHOGENIC IMPOTENCE BY SYSTEMATIC DESENSITIZATION EMPLOYING METHOHEXITONE INDUCED RELAXATION.

099320 13-10

CHLORPROMAZINE INDUCED HISTAMINE RELEASE AND LIPOLYSIS IN CANINE ADIPOSE TISSUE IN SITU.

099647 13-03

MORPHINE TOLERANCE AND DEPENDENCE INDUCED BY INTRAVENTRICULAR INJECTION.

099826 13-04

METHAMPHETAMINE INDUCED INSULIN RELEASE.

099827 13-03

THE INFLUENCE OF TRAINING AND AVOIDANCE PERFORMANCE ON DISULFIRAM INDUCED CHANGES IN BRAIN CATECHOLAMINES.

100216 13-03

LSD INDUCED DECREASE IN SERUM PROLACTIN IN RATS.

100220 13-03

PHENOTHIAZINE INDUCED HYPERGLYCEMIA: RELATION TO CNS AND ADRENAL EFFECTS.

100221 13-03

PSYCHIATRY AND IMMUNOLOGY: CONTRIBUTION OF THE EXPERIMENTAL STUDY OF THE IMMUNODEPRESSANT EFFECT OF A CORRECTOR OF EXTRAPYRAMIDAL SYNDROMES INDUCED BY NEUROLEPTICS, ETHYLBENZATROPINE.

100604 13-11

POTENTIATION IN RATS OF BUPOTENIN INDUCED BEHAVIORAL CHANGES BY CHLORPROMAZINE.

101570 13-04

PROPRANOLOL FOR LSD INDUCED ANXIETY STATES.

101667 13-14

# Subject Index

- EFFECT OF ATROPINE ON DRINKING INDUCED BY CARBACHOL, ANGIOTENSIN AND ISOPROTERENOL. 101966 13-04
- THE INFLUENCE OF NEUROLEPTIC AND THYMOLPTIC DRUGS ON STEREOTYPES INDUCED BY AMPHETAMINE AND APOMORPHINE. 102186 13-04
- ALTERATION OF BEHAVIOURAL CHANGES INDUCED BY 3,4,5 TRIMETHOXYPHENYLETHYLAMINE (MESCALINE) BY PRETREATMENT WITH 2,4,5 TRIMETHOXYPHENYLETHYLAMINE. A SELF-EXPERIMENT. 102193 13-12
- LITHIUM CARBONATE INDUCED MYXEDEMA. 102880 13-15
- CHANGES IN THE FORMATION OF 3H-CATECHOLAMINES FROM 3H-DOPA AND 3H-TYROSINE INDUCED BY UNLABELLED DOPA. 103313 13-03
- PYRAZOLE AND ETHANOL POTENTIATION OF TRYPTOPHOL INDUCED SLEEP IN MICE. 103647 13-04
- RESERPINE THERAPY OF PHENOTHIAZINE INDUCED DYSKINESIA. 103917 13-11
- PHARMACOLOGICAL PROTECTION AGAINST HYPOXIA INDUCED AMNESIA IN RATS. 104145 13-04
- THE INFLUENCE OF BARBITURATES ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCI. 104375 13-03
- INFLUENCE OF CHLORDIAZEPoxide ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCI. 104376 13-03
- INFLUENCE OF ISOLATION ON THE AGGRESSIVE BEHAVIOR INDUCED BY APOMORPHINE IN THE RAT. 104430 13-04
- ANTAGONISM OF D-AMPHETAMINE INDUCED HYPERTHERMIA IN RATS BY PIMOZIDE. 104472 13-03
- LEARNED ESCAPE BEHAVIOR INDUCED BY BRAIN ELECTRICAL STIMULATION AND VARIOUS NEUROACTIVE AGENTS. 104786 13-04
- CYCLOHEXIMIDE INDUCED AMNESIA: ITS INTERACTION WITH DETENTION. 104796 13-04
- ANTAGONISM OF INTRACEREBRALLY INDUCED NICOTINIC CONVULSIONS IN MICE: A METHOD FOR MEASURING THE CENTRAL ANTINICOTINIC ACTIVITY OF CNS ACTING AGENTS. 104807 13-06
- THE CYCLOHEXIMIDE INDUCED AMNESIA GRADIENT OF A PASSIVE AVOIDANCE TASK. 105075 13-04
- EFFECTS OF APOMORPHINE AND AMPHETAMINE IN RATS WITH A PERMANENT CATALEPSY INDUCED BY DIENCEPHALIC LESION. PHARMACOLOGY. 105118 13-03
- A COMPARISON OF STATE DEPENDENT LEARNING INDUCED BY ELECTROCONVULSIVE SHOCK AND PENTOBARBITAL. 105362 13-04
- REVERSAL BY SOTALOL OF THE RESPIRATORY DEPRESSION INDUCED IN MICE BY ETHANOL. 105406 13-03
- NIKETHAMIDE AND DOXAPRAM EFFECTS ON PENTAZOCINE AND MORPHINE INDUCED RESPIRATORY DEPRESSION. 105407 13-03
- LACTATE INDUCED ANXIETY. THERAPEUTIC APPLICATION. 105890 13-11
- EFFECTS OF BUFOTENINE AND P-CHLOROPHENYLALANINE ON STRESS INDUCED BEHAVIOR. 106491 13-03
- THE EFFECT OF DIETHYLDITHIOCARBAMATE ON AMPHETAMINE INDUCED BEHAVIOR IN RATS. 106910 13-04
- THE CENTRALLY INDUCED FALL IN BLOOD PRESSURE AFTER THE INFUSION OF AMPHETAMINE AND RELATED DRUGS INTO THE VERTEBRAL ARTERY OF THE CAT. 106911 13-03
- CHLORPROMAZINE INDUCED HYPOTHERMIA AND INCREASED PLASMA CREATINE PHOSPHOKINASE ACTIVITY. 108280 13-03
- PHENOTHIAZINE INDUCED CARDIAC ARRHYTHMIA. 108513 13-15
- INDUCED FORMATION OF PHENYLALANINE AMMONIA LYASE AND PISATIN BY CHLORPROMAZINE AND OTHER PHENOTHIAZINE DERIVATIVES. 108716 13-17
- EFFECT OF SOME AMPHETAMINE ANALOGUES ON ALPHA-METHYL-P-TYROSINE INDUCED CATALEPSY IN RATS. 108797 13-03

# Psychopharmacology Abstracts

- ROLE OF BRAIN MONOAMINES IN THE FATAL HYPERTHERMIA INDUCED BY PETHIDINE OR IMIPRAMINE IN RABBITS PRETREATED WITH PARGYLINE. 109197 13-03
- THE ATTENUATING EFFECT OF STRYCHNINE AND PHYSOSTIGMINE ON DURAL ELECTROCONVULSIVE SHOCK INDUCED RETROGRADE AMNESIA. (PH.D. DISSERTATION). 109358 13-04
- MESCALINE INDUCED CHANGES OF BRAIN CORTEX RIBOSOMES. EFFECT OF MESCALINE ON AMINO ACID INCORPORATING ABILITY OF RIBOSOMES. 109418 13-03
- EFFECTS OF PSILOCYBIN, DIMETHYLTRYPTAMINE, MESCALINE AND VARIOUS LYSERGIC ACID DERIVATIVES ON THE EEG AND ON PHOTICALLY INDUCED EPILEPSY (PAPIO-PAPIO). 109620 13-03
- EFFECT OF ANTICHOLINESTERASE SUBSTANCES ON CHANGES OF CONDITIONED REFLEXES INDUCED BY CHLORPROMAZINE. 111133 13-04
- ADRENERGIC EFFECT OF CHRONIC ADMINISTRATION OF NEUROLEPTICS AND ANTIPESSANTS ON A MODEL OF APOMORPHINE INDUCED STEREOTYPY. 111135 13-04
- EFFECT OF NEMBUTAL ON THE INHIBITORY WAVE OF ANTIDROMICALLY INDUCED POTENTIAL IN THE MOTOR CORTEX OF THE CAT. 111136 13-03
- RUBIDIUM INDUCED INCREASE IN SHOCK ELICITED AGGRESSION IN RATS. 111144 13-04
- THE EFFECTS OF HALOXONE, CHLORPROMAZINE, AND HALOPERIDOL PRETREATMENT ON LEVALLORPHAN INDUCED DISRUPTION OF RATS OPERANT BEHAVIOR. 111145 13-04
- EFFECT OF PHENAMINE INDUCED INSOMNIA AND OF SUBSEQUENT SLEEP ON PROTEIN CONTENT IN THE NEURONS AND GLIAL CELLS OF THE SUPRAOPTIC AND RED NUCLEI OF THE BRAIN. 111831 13-03
- ON THE FUNCTIONAL RELATIONSHIP BETWEEN PHYSIOLOGICAL AND PENTETRAZOL INDUCED RHYTHMIC ACTIVITY IN THE EEG OF UNRESTRAINED RATS. 113567 13-03
- POTENTIATION OF AMPHETAMINE INDUCED AROUSAL BY STARVATION. 114515 13-04
- A QUANTITATIVE STUDY OF NEUROLEPTIC INDUCED EXTRAPYRAMIDAL SYMPTOMS AND THEIR RESPONSE TO DEXETIMIDE, A POTENT AND LONG-ACTING ANTIPARKINSONIAN AGENT. 115395 13-13
- REVERSAL OF CHLORPROMAZINE INDUCED HYPOTENSION BY CALCIUM CHLORIDE IN DOGS. 119691 13-04
- SUSCEPTIBILITY TO AUDIOGENIC STIMULI INDUCED BY HYPERBARIC OXYGENATION AND VARIOUS NEUROACTIVE AGENTS. 119724 13-03
- CATATONIA INDUCED IN THE RABBIT BY INTRACEREBRAL INJECTION OF BRADYKININ AND MORPHINE. 120716 13-03
- IMPORTANCE OF NERVOUS IMPULSE FLOW FOR THE NEUROLEPTIC INDUCED INCREASE IN AMINE TURNOVER IN CENTRAL DOPAMINE NEURONS. 120717 13-03
- CORRELATION OF THE RECOVERY OF THE GRANULAR UPTAKE STORAGE MECHANISM AND THE NERVE IMPULSE INDUCED RELEASE OF (3H)NORADRENALINE AFTER RESERPINE. 120819 13-03
- EXPLORATION OF CERTAIN BEHAVIORAL PATTERNS INDUCED BY PSYCHOACTIVE AGENTS IN THE RAT. 120964 13-04
- ANALYSIS OF THE SUPERSENSITIVITY TO NORADRENALINE INDUCED BY AMPHETAMINE IN THE ISOLATED VAS-DEFERENS OF THE RAT. 121065 13-03
- CHOLINERGIC AND NEUROLEPTIC INDUCED CATALEPSY: MODIFICATION BY LESIONS IN THE GLOBUS-PALLIDUS AND SUBSTANTIA-NIGRA. 122542 13-03
- EFFECT OF CALCIUM ON RESERPINE INDUCED CATALEPSY. 122549 13-03
- LITHIUM INDUCED INHIBITION OF THE 5-HYDROXYTRYPTAMIN UPTAKE IN VITRO BY RAT THROMBOCYTES. 123280 13-03
- EFFECTS OF ANTIHISTAMINES ON ISOLATION INDUCED FIGHTING IN MICE. 125247 13-04
- CHANGES IN A HEXOBARBITAL ANESTHESIA THRESHOLD IN RATS INDUCED BY REPEATED LONG-TERM TREATMENT WITH BARBITAL OR ETHANOL. 125248 13-03
- PARTICIPATION OF LIVER FUNCTION IN THE ACUTE TOLERANCE TO PENTOBARBITAL INDUCED AFTER SHORT-TERM INFUSION. 125326 13-03

- INCREASE OF MORPHINE INDUCED ANALGESIA BY STIMULATION OF THE NUCLEUS RAPHE DORSALIS. 125653 13-03
- ATTEMPTED THERAPY OF DEPRESSIVE PSYCHOSIS BY MEANS OF EXPERIMENTALLY INDUCED SKIN ALLERGIES. 126102 13-09
- INDUCING**
- THE COMPARISON OF THE STEREOTYPED BEHAVIOR INDUCING EFFECTS OF D-AMPHETAMINE AND L-AMPHETAMINE IN DOGS. 099110 13-04
- INDUCTION**
- TRANSSYNAPTIC INDUCTION OF DOPAMINE-BETA-HYDROXYLASE IN ADRENERGIC TISSUES OF THE RAT (UNPUBLISHED PAPER). 092859 13-03
- REPLACEMENT OF PROGESTERONE WITH A PHENOTHIAZINE IN THE INDUCTION OF MATERNAL BEHAVIOR IN THE OVARECTOMIZED NULLIPAROUS RAT. 095383 13-04
- INDUCTION OF BIZARRE BEHAVIOUR IN RATS BY P-CHLOROAMPHETAMINE, A SEROTONIN DEPLETOR, AFTER REPEATED DRUG ADMINISTRATION. 104793 13-04
- KINETICS OF THE GLUCOCORTICOID MEDIATED INDUCTION OF PHENYLETHANOLAMINE N METHYL TRANSFERASE IN THE HYPOPHYSECTOMIZED RAT. 108720 13-03
- A STUDY OF THE INDUCTION EFFECT OF PHENOBARBITAL, DIAZEPAM, OXAZEPAM IN THE DOG. 123293 13-03
- INDUSTRIAL**
- IMPLEMENTATION OF PSYCHOTHERAPY BY LIBRIUM IN A PIONEERING RURAL INDUSTRIAL PSYCHIATRIC PRACTICE. 096019 13-10
- INDUSTRY**
- TRIAL MANAGEMENT IN PSYCHOPHARMACOLOGY: THE ROLES AND TASKS OF AN INDUSTRY PHYSICIAN. 078957 13-17
- INEFFECTIVE**
- VITAMIN-E INEFFECTIVE IN RECURRENT PSYCHOSIS. 104638 13-09
- INEFFECTIVENESS**
- THE INEFFECTIVENESS OF DIPHENYLHYDANTOIN IN PREVENTING FEBRILE CONVULSIONS IN THE AGE OF GREATEST RISK, UNDER THREE YEARS. 100844 13-11
- INESCAPABLE**
- EFFECTS OF METHAMPHETAMINE AND SHOCK DURATION DURING INESCAPABLE SHOCK EXPOSURE ON SUBSEQUENT ACTIVE AND PASSIVE AVOIDANCE. 102549 13-04
- INFANTILE**
- LABORATORY PREDICTIONS OF INFANTILE AUTISM BASED ON 5-HYDROXYTRYPTAMINE EFFLUX FROM BLOOD PLATELETS AND THEIR CORRELATION WITH THE RIMLAND E-2 SCORE. 082634 13-13
- INFANTS**
- INTRAVENOUS DIAZEPAM IN THE TREATMENT OF PROLONGED SEIZURE ACTIVITY IN NEONATES AND INFANTS. 101560 13-11
- TREATMENT OF HYPERBILIRUBINEMIA IN PREMATURE AND NEWBORN INFANTS WITH PHENOBARBITAL AND LIGHT THERAPY. 125867 13-13
- INFARCTION**
- MYOCARDIAL INFARCTION FOLLOWING INTOXICATION WITH ETHANOL AND CHLORPROMAZINE. 118662 13-15
- INFLAMMATORY**
- THE INFLUENCE OF PSYCHOPHARMACOLOGICALLY ACTIVE SUBSTANCES ON VARIOUS MODELS OF AN INFLAMMATORY REACTION. 118201 13-05
- INFLUENCE**
- THE INFLUENCE OF SELECTIVE TEMPORAL LOBE DAMAGE ON BEHAVIOR AND THE RESPONSE TO LYSERGIC ACID DIETHYLAMIDE. 073494 13-05
- A NOTE ON THE INFLUENCE OF DIET IN WEST AFRICA ON URINARY PH AND EXCRETION OF AMPHETAMINE IN MAN. 077904 13-13
- INFLUENCE OF SEX OF HOSPITALIZED SCHIZOPHRENICS ON THERAPEUTIC DOSAGE LEVELS OF NEUROLEPTICS. 079314 13-17
- THE INFLUENCE OF ALCOHOL AND MARIHUANA ON MOTOR AND MENTAL PERFORMANCE. 079431 13-14
- THE INFLUENCE OF HYPNOTICS AND TRANQUILLIZERS ON SOME EVOKED CORTICAL POTENTIALS. 082760 13-03
- INFLUENCE OF METHAMPHETAMINE ON INCORPORATION OF GLUCOSE INTO BRAIN GLYCOGEN. 086819 13-03
- THE INFLUENCE OF HYPOTHERMIA ON CHLORPROMAZINE INDUCED METABOLIC CHANGES IN MOUSE HEART AND BRAIN. 088641 13-03
- INFLUENCE OF PH ON AGGREGATION AND PROTEIN BINDING OF BARBITURIC ACID AND AMYLOBARBITONE. 089049 13-03
- THE INFLUENCE OF BARBITURATE ANESTHESIA UPON THE ENERGY STATE AND UPON ACID BASE PARAMETERS OF THE BRAIN IN ARTERIAL HYPOTENSION AND IN ASPHYXIA. 095999 13-03
- THE INFLUENCE OF PHENELZINE ON THE TOXICITY OF CHOLINERGIC DRUGS MODIFIED BY RESERPINE. 098294 13-05
- THE INFLUENCE OF ADRENOLYTIC AGENTS ON THE CATECHOLAMINE TOXIC ACTION IN MICE AND RATS. 098296 13-05
- INFLUENCE OF PERINATAL DRUGS ON THE BEHAVIOR OF THE NEONATE. 099518 13-15
- THE INFLUENCE OF TRAINING AND AVOIDANCE PERFORMANCE ON DISULFIRAM INDUCED CHANGES IN BRAIN CATECHOLAMINES. 100216 13-03
- THE INFLUENCE OF PROPHYLACTIC LITHIUM TREATMENT ON THE MARITAL ADJUSTMENT OF MANIC-DEPRESSIVES AND THEIR SPOUSES. 100314 13-09
- THE INFLUENCE OF 1,5 DICAFFEYLQUINIC ACID ON SERUM LIPIDS IN THE EXPERIMENTALLY ALCOHOLISED RAT. 100334 13-03
- THE INFLUENCE OF NEUROLEPTIC AND THYMOLEPTIC DRUGS ON STEREOTYPES INDUCED BY AMPHETAMINE AND APOMORPHINE. 102186 13-04
- GAS CHROMATOGRAPHIC ANALYSIS OF CHLORPROMAZINE AND ITS METABOLITES FORMED BY HEPATIC MICROSOMES - I. INFLUENCE OF MAGNESIUM. 102695 13-03
- ON THE INFLUENCE OF HALOPERIDOL ON LYSERGIC ACID INTOXICATION. 102792 13-03
- INFLUENCE OF AMINAZINE ON THE ADAPTATION OF THE CARDIOVASCULAR SYSTEM IN EPILEPTIC PATIENTS. 102830 13-17
- THE INFLUENCE OF OROTIC ACID ON THE RETROGRADE AMNESIA CAUSED BY ECS. 103945 13-04
- THE INFLUENCE OF BARBITURATES ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCI. 104375 13-03
- INFLUENCE OF CHLORDIAZEPOXIDE ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCI. 104376 13-03
- THE INFLUENCE OF LOW LSD DOSE ADMINISTRATION DURING SLEEP IN RATS. 104429 13-04
- INFLUENCE OF ISOLATION ON THE AGGRESSIVE BEHAVIOR INDUCED BY APOMORPHINE IN THE RAT. 104430 13-04
- INFLUENCE OF (-)DELTA(G) TRANS-TETRAHYDROCANNABINOL AND Mescaline ON THE BEHAVIOR OF RATS SUBMITTED TO FOOD COMPETITION SITUATIONS. 104578 13-04
- THE INFLUENCE OF TREATMENT WITH NEUROLEPTICS UPON THE ANTIBODY FORMATION. 104798 13-13
- THE INFLUENCE OF SOME SELECTED PSYCHOACTIVE DRUGS ON THE SPONTANEOUS CONTRACTILE ACTIVITY OF THE ISOLATED MURINE PORTAL VEIN. 104964 13-03
- INFLUENCE OF A CHRONIC TREATMENT ON THE DISTRIBUTION OF AMITRIPTYLINE AND METABOLITES IN RABBIT BRAIN. 105708 13-03
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN: II. INFLUENCE ON BEHAVIOR IN RATS. 105838 13-04
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN: IV. ANTIADRENERGIC ACTION AND INFLUENCE ON BRAIN MONOAMINES. 105841 13-03
- THE INFLUENCE OF ANTICHOLINERGIC HALLUCINOGENS ON SPONTANEOUS AND CONDITIONED BEHAVIOUR IN RATS. 105994 13-04
- THE INFLUENCE OF METHYL SUBSTITUTION ON THE N-DEMETHYLATION AND N-OXIDATION OF NORMETHADONE IN ANIMAL SPECIES. 106423 13-03
- THE INFLUENCE OF PARGYLINE ON THE EFFECTS OF IN VITRO DOPAMINE INFUSIONS IN THE CAT SPLEEN. 107193 13-03
- THE INFLUENCE OF LYSERGIC ACID DIETHYLAMIDE ON THE ACTIVITY OF SOLITARY NEURONS OF SOME CEREBRAL REGIONS. 107722 13-03

- THE INFLUENCE OF AMIZYL AND DIPACYL ON PROCESSES OF CAPTURE AND DISCHARGE OF NOREPINEPHRINE. 107723 13-03
- INFLUENCE OF PSYCHOTOMIMETIC SUBSTANCES ON THE ENERGETIC METABOLISM OF BRAIN MITOCHONDRIA. 107725 13-03
- ROLE OF CENTRAL SEROTONINERGIC PROCESSES IN DEVELOPMENT OF HEAD TWITCHES IN MICE AND RATS UNDER THE INFLUENCE OF TRYPTOPHAN. 109920 13-02
- ACQUISITION OF CONDITIONED AVOIDANCE RESPONSE IN RATS UNDER THE INFLUENCE OF ADDICTING DRUGS. 110182 13-04
- THE INFLUENCE OF PSYCHOPHARMACOLOGICALLY ACTIVE SUBSTANCES ON VARIOUS MODELS OF AN INFLAMMATORY REACTION. 118201 13-05
- THE INFLUENCE OF ADRENERGIC RECEPTOR BLOCKING AGENTS, AMPHETAMINE, AND 6-AMINONICOTINAMIDE ON THERMOREGULATION. 119553 13-03
- THE INFLUENCE OF ANTIPARKINSON AGENTS UPON SUBNARCOTIC AND CHOLINERGIC POTENTIATION OF BARBITAL IN MICE. 122048 13-03
- INFLUENCE OF ACTIVE BIOLOGICAL TREATMENT ON THE TIME OF DURATION OF REMISSION IN MANIC-DEPRESSIVE PSYCHOSIS. 122942 13-09
- THE INFLUENCE OF SUBCHRONIC TETRAHYDROCANNABINOL AND CANNABIS TREATMENT ON FOOD AND WATER INTAKE, BODY WEIGHT AND BODY TEMPERATURE OF RATS. 123267 13-03
- THE INFLUENCE OF SOLVENT AGENTS ON THE EFFECTS OF CANNABIS. 123291 13-03
- THE INFLUENCE OF 1-(O-ALLYLPHENOXY)-3 ISOPROPYLAMINO-2-PROPANOL HYDROCHLORIDE (ALPRENOLOL) ON THE CENTRAL NERVOUS SYSTEM OF THE RAT. 124105 13-03
- THE INFLUENCE OF HARMINE ON THE BIOELECTRICAL ACTIVITY IN THE RAT HIPPOCAMPUS. 124106 13-03
- THE INFLUENCE OF HARMINE ON BIOELECTRIC ACTIVITY IN CEREBRAL ISOLE RATS. 125071 13-03
- THE INFLUENCE OF PROLONGED AMPHETAMINE TREATMENT AND AMPHETAMINE WITHDRAWAL ON BRAIN BIOGENIC AMINE CONTENT AND BEHAVIOUR IN THE RAT. 125163 13-03
- FURTHER OBSERVATION ON THE ENHANCEMENT BY MORPHINE OF THE CENTRAL DESCENDING INHIBITORY INFLUENCE ON SPINAL SENSORY TRANSMISSION. 125358 13-03
- INFLUENCE OF AMPHETAMINE ON THE PATHOLOGICAL STATE OF THE RAT BRAIN. 125422 13-05
- LEARNING STRATEGY AND ITS TRANSFER UNDER THE INFLUENCE OF PHARMACOLOGICAL STRESS. 125921 13-14
- INFLUENCE OF COCAINE AND PHENOXYBENZAMINE ON NORADRENALINE UPTAKE AND RELEASE. 125959 13-03
- INFLUENCED**  
CHOLINERGIC INFLUENCED NARCOSIS AND BRAIN ACETYLCHOLINE CONTENT OF MOUSE. 094258 13-03
- INFLUENCES**  
PARTICLE SIZE INFLUENCES IN PARENTERAL THERAPY: PHENOBARBITAL STUDY. 088290 13-03
- HORMONAL INFLUENCES ON FEAR MOTIVATED RESPONSES. 093112 13-14
- SENSORY INFLUENCES UPON AMPHETAMINE TOLERANCE. 106694 13-04
- A METHOD FOR STUDYING THE INFLUENCES OF DRUGS ON LEARNING FOR FOOD REWARDS IN RATS. 125249 13-06
- INFLUENCING**  
THE EFFECT OF DRUGS INFLUENCING AMINE SYNTHESIS ON THE ANALGESIC ACTION OF TREMORINE. 104804 13-03
- INFLUX**  
DIPHENYLHYDANTOIN (DILANTIN); STIMULATION OF POTASSIUM INFLUX IN LOBSTER AXONS. 117581 13-03
- INFORMATION**  
RETRIEVAL OF INFORMATION AFTER USE OF MARIHUANA. 095480 13-14
- INFRACTION**  
COMPARATIVE EVALUATION OF DIAZEPAM (VALIUM) AND PHENOBARBITAL: FOR THE RELIEF OF ANXIETY RELATED SYMPTOMS IN PATIENTS HOSPITALIZED FOR ACUTE MYOCARDIAL INFARCTION. 100626 13-14
- INFUSED**  
EFFECTS OF INFUSED TESTOSTERONE ON MENTAL PERFORMANCES AND SERUM LH. 088596 13-14
- INFUSION**  
TREATMENT OF DEPRESSION BY INFUSION TECHNIQUE. 086519 13-09
- A DEVICE FOR THE CHRONIC INTRAVENTRICULAR INFUSION IN FREELY MOVING RATS. 088576 13-06
- ACTIONS AND METABOLISM OF HEROIN ADMINISTERED BY CONTINUOUS INTRAVENOUS INFUSION TO MAN. 100417 13-13
- THE CENTRALLY INDUCED FALL IN BLOOD PRESSURE AFTER THE INFUSION OF AMPHETAMINE AND RELATED DRUGS INTO THE VERTEBRAL ARTERY OF THE CAT. 106911 13-03
- PARTICIPATION OF LIVER FUNCTION IN THE ACUTE TOLERANCE TO PENTOBARBITAL INDUCED AFTER SHORT-TERM INFUSION. 125326 13-03
- INFUSIONS**  
FACTORS AFFECTING BEHAVIOR MAINTAINED BY RESPONSE CONTINGENT INTRAVENOUS INFUSIONS OF AMPHETAMINE IN SQUIRREL MONKEYS. 089060 13-04
- THE INFLUENCE OF PARGYLINE ON THE EFFECTS OF IN VITRO DOPAMINE INFUSIONS IN THE CAT SPLEEN. 107193 13-03
- INGESTION**  
CARDIAC ARRHYTHMIA IN A CHILD DUE TO CHLORAL HYDRATE INGESTION. 077912 13-15
- BLOOD VOLUME FOLLOWING ACUTE ETHYL-ALCOHOL INGESTION IN DOGS. 078165 13-03
- ALCOHOL INGESTION IN RATS FOLLOWING MEDIAN EMINENCE LESIONS. 079428 13-04
- APNEA FOLLOWING METHAQUALONE INGESTION: REPORT OF A CASE. 102916 13-15
- DEVELOPMENT OF MORPHINE DEPENDENCE IN RATS: LACK OF EFFECT OF PREVIOUS INGESTION OF OTHER DRUGS. 104436 13-04
- RUBIDIUM CHLORIDE INGESTION BY VOLUNTEER SUBJECTS: INITIAL EXPERIENCE. 104438 13-07
- NEAR FATAL REACTION TO INGESTION OF THE HALLUCINOGENIC DRUG MDA. 125427 13-15
- INHALATION**  
ALCOHOL DEPENDENCE PRODUCED IN MICE BY INHALATION OF ETHANOL: GRADING THE WITHDRAWAL REACTION. 082827 13-03
- INHIBITION**  
INHIBITION OF ALDEHYDE DEHYDROGENASE BY 2-CHLOROACETOPHENONE AND THE RESULTANT EFFECTS OF THE CATABOLISM OF NOREPINEPHRINE ON BRAIN. 077726 13-03
- INSECTICIDE INHIBITION OF NA-K-ATPASE ACTIVITY. 077871 13-03
- INHIBITION OF NOREPINEPHRINE BIOSYNTHESIS BY CHLOROPROMAZINE IN THE GUINEA-PIG VAS-DEFERENS. 082784 13-03
- SEROTONIN ACCUMULATION AFTER MONOAMINE OXIDASE INHIBITION. 082792 13-03
- VASOPRESSIN INHIBITION BY LITHIUM. 082829 13-15
- VASOPRESSIN INHIBITION BY LITHIUM. 082830 13-15
- VASOPRESSIN INHIBITION BY LITHIUM. 082831 13-15
- DEPRESSION EASED BY MAO INHIBITION. 083393 13-09
- THE EFFECT OF A THYMOTROPIC DRUG UPON INHIBITION OF DRIVE IN ENDOGENOUS DEPRESSION: A QUANTITATIVE STATISTICAL INVESTIGATION. 087291 13-09
- POTENTIATION OF EFFECTS OF L-DOPA ON CONDITIONED AVOIDANCE BEHAVIOR BY INHIBITION OF EXTRACEREBRAL DOPA-DECARBOXYLASE. 088685 13-03
- EFFECT OF INHIBITION OF CATECHOLAMINE SYNTHESIS ON CENTRAL CATECHOLAMINE-CONTAINING NEURONES IN THE DEVELOPING ALBINO RAT. 089441 13-03

- THE INVOLVEMENT OF CENTRAL CHOLINERGIC MECHANISMS IN THE FORMATION AND INHIBITION OF CONDITIONAL REFLEXES IN RATS. 098295 13-04
- INHIBITION OF PENTETAZOL INDUCED HYPERSYNCHRONOUS ACTIVITY IN THE THALAMOCORTICAL SYSTEM BY ETHOSUXIMIDE. 098297 13-04
- EVIDENCE FOR INHIBITION BY BRAIN SEROTONIN OF MOUSE KILLING BEHAVIOR IN RATS. 099794 13-04
- INHIBITION OF L-PHENYLALANINE ABSORPTION BY L-DOPA IN PATIENTS WITH PARKINSONISM. 099851 13-13
- THE RELATIONSHIP BETWEEN THE INHIBITION OF DOPAMINE UPTAKE AND THE ENHANCEMENT OF AMPHETAMINE STEREOTYPY. 100566 13-03
- METABOLISM OF PROPRANOLOL BY RAT LIVER MICROSOMES AND ITS INHIBITION BY PHENOTHIAZINE AND TRICYCLIC ANTIDEPRESSANT DRUGS. 101703 13-03
- INHIBITION OF NORMAL GROWTH BY CHRONIC ADMINISTRATION OF DELTA9-TETRAHYDROCANNABINOL. 101935 13-05
- BEHAVIORAL EFFECTS OF HALOPERIDOL AFTER TYROSINE HYDROXYLASE INHIBITION. 104171 13-04
- INHIBITION OF D-AMPHETAMINE HYPERTHERMIA BY BLOCKADE OF DOPAMINE RECEPTORS IN RABBITS. 105404 13-03
- DIAZEPAM AND PRESYNAPTIC INHIBITION. 107121 13-03
- INHIBITION OF DRUG METABOLISM BY LEVODOPA IN COMBINATION WITH A DOPA-DECARBOXYLASE INHIBITOR. 111618 13-13
- BEHAVIOURAL AND BIOCHEMICAL EFFECTS OF L-DOPA AFTER INHIBITION OF DOPAMINE-BETA-HYDROXYLASE IN RESERPINE PRETREATED RATS. 119552 13-03
- POTENTIATION OF HALOPERIDOL BY TYROSINE HYDROXYLASE INHIBITION. 123269 13-03
- BEHAVIOURAL EFFECT OF AMANTADINE IN RATS AFTER INHIBITION OF MONOAMINE SYNTHESIS, STORAGE AND RECEPTOR INTERACTION. 123277 13-03
- LITHIUM INDUCED INHIBITION OF THE 5-HYDROXYTRYPTAMIN UPTAKE IN VITRO BY RAT THROMBOCYTES. 123280 13-03
- EFFECTS OF SOME NARCOTIC ANALGESICS AND RELATED COMPOUNDS UPON THE EXTENSOR MONOSYNAPTIC REFLEX INHIBITION FROM CUTANEOUS NERVE AND HIGH THRESHOLD MUSCLE AFFERENTS. 125324 13-03
- EFFECTS OF SOME NARCOTIC ANALGESICS UPON THE MONOSYNAPTIC REFLEX INHIBITION FROM MUSCULAR AND CUTANEOUS AFFERENTS IN SPINAL CORD OF THE CAT. 125327 13-03
- MECHANISMS OF INHIBITION OF CEREBELLAR PURKINJE CELLS IN RAT AND FROG. 125594 13-03
- INHIBITIONS**
- EFFECT OF MORPHINE ON THE PRESYNAPTIC AND POSTSYNAPTIC INHIBITIONS IN THE SPINAL CORD. 082788 13-03
- INHIBITOR**
- STUDIES IN VIVO ON THE RELATIONSHIP BETWEEN BRAIN TRYPTOPHAN, BRAIN 5-HT SYNTHESIS AND HYPERACTIVITY IN RATS TREATED WITH A MONOAMINE OXIDASE INHIBITOR AND L-TRYPTOPHAN. 087124 13-03
- PYRIDOXAL-5-PHOSPHATE - AN INHIBITOR OF CATECHOL-O-METHYLTRANSFERASE IN VITRO. 088546 13-03
- EFFECT OF THIAZOL-4-YLMETHOXYAMINE, A NEW INHIBITOR OF HISTAMINE BIOSYNTHESIS ON BRAIN HISTAMINE, MONOAMINE LEVELS AND BEHAVIOR. 101541 13-03
- TREATMENT OF INTRACTABLE NARCOLEPSY WITH A MONOAMINE OXIDASE INHIBITOR. 103248 13-14
- INHIBITORY EFFECT OF CHLORPROMAZINE ON THE SYNDROME OF HYPERACTIVITY PRODUCED BY L-TRYPTOPHAN OR 5-METHOXY-N,N-DIMETHYLTRYPTAMINE TREATED WITH A MONOAMINE OXIDASE INHIBITOR. 108795 13-03
- INHIBITION OF DRUG METABOLISM BY LEVODOPA IN COMBINATION WITH A DOPA-DECARBOXYLASE INHIBITOR. 111618 13-13
- EFFECT OF THE MONOAMINE OXIDASE INHIBITOR PARGYLINE ON THE UPTAKE OF LABELLED NORADRENALINE BY THE CATS SPLEEN. 120413 13-03
- POTENTIATION OF THE CARDIOVASCULAR EFFECTS OF SOME CATECHOLAMINES BY A MONOAMINE OXIDASE INHIBITOR. 120417 13-13
- INTERACTIONS BETWEEN CATECHOLAMINES AND TRICYCLIC AND MONOAMINE OXIDASE INHIBITOR ANTIDEPRESSIVE AGENTS IN MAN. 120418 13-13
- BIOCHEMICAL AND PHARMACOLOGICAL PROPERTIES OF P-AMINO-GAMMA-MORPHOLINO BUTYROPHENONE (FG-5310), A NEW SELECTIVE MAO INHIBITOR. 123272 13-03
- A COMPARISON OF FG-5310, A NEW SELECTIVE MONOAMINE OXIDASE INHIBITOR, AND OTHER MAO INHIBITORS ON THE BLOOD PRESSURE RESPONSE TO TYRAMINE. 123287 13-03
- DOUBLE-BLIND STUDY OF THE DREXIGENIC EFFECT OF A SEROTONIN INHIBITOR IN ANOREXIC CHILDREN. 125289 13-13
- CLINICAL OBSERVATIONS ON THE COMPOSITE TREATMENT OF PARKINSONS SYNDROME WITH L-DOPA AND THE DECARBOXYLASE INHIBITOR RO-4-4602. 125996 13-11
- INHIBITORS**
- EFFECTS OF MONOAMINE OXIDASE INHIBITORS AND RESERPINE ON BRAIN AMINES IN ALTITUDE EXPOSED RATS. 085727 13-13
- EFFECTS OF IMIPRAMINE, DESIPRAMINE AND MONOAMINE OXIDASE INHIBITORS ON THE METABOLISM AND PSYCHOMOTOR STIMULANT ACTIONS OF D-AMPHETAMINE IN MICE. 089027 13-04
- THE HAZARDS OF USE OF MONOAMINE OXIDASE INHIBITORS IN DISTURBED ADOLESCENTS. 089080 13-15
- COMPARISON OF PYRAZOLE AND 4-BROMOPYRAZOLE AS INHIBITORS OF ALCOHOL DEHYDROGENASES: THEIR POTENCY, TOXICITY AND DURATION OF ACTION IN MICE. 094253 13-05
- TRICYCLIC ANTIDEPRESSANTS AND MONOAMINE OXIDASE INHIBITORS. 095945 13-09
- MONOAMINE OXIDASE INHIBITORS. 099170 13-15
- STUDIES ON ANALGESIC EFFECTS OF MAO INHIBITORS. 100506 13-03
- ANXIETY STATE OR MASKED DEPRESSION? A STUDY BASED ON THE ACTION OF MONOAMINE OXIDASE INHIBITORS. 100791 13-10
- THE TOXICITY OF TWO MAO INHIBITORS COMBINED WITH 5-HTP OR L-DOPA IN ANESTHETIZED MICE. 103314 13-05
- GABA UPTAKE IN RAT CENTRAL NERVOUS SYSTEM: COMPARISON OF UPTAKE IN SLICES AND HOMOGENATES AND THE EFFECTS OF SOME INHIBITORS. 104007 13-03
- THE ROLE OF BRAIN NOREPINEPHRINE IN THE ANOREXIC EFFECTS OF DEXTROAMPHETAMINE AND MONOAMINE OXIDASE INHIBITORS IN THE RAT. 104574 13-03
- STRESS RELATED EFFECTS OF VARIOUS INHIBITORS OF CATECHOLAMINE SYNTHESIS IN THE MOUSE. 106152 13-03
- STUDY WITH MESCALINE-8-C14 IN MICE: EFFECT OF AMINE OXIDASE INHIBITORS ON METABOLISM. 107959 13-03
- EFFECT OF MONOAMINE OXIDASE INHIBITORS ON QUALITATIVE ALTERATIONS IN ENZYMIC PROPERTIES OF MITOCHONDRIAL MONOAMINE OXIDASES. 118566 13-03
- A COMPARISON OF FG-5310, A NEW SELECTIVE MONOAMINE OXIDASE INHIBITOR, AND OTHER MAO INHIBITORS ON THE BLOOD PRESSURE RESPONSE TO TYRAMINE. 123287 13-03
- INHIBITORY**
- HYDROXYINDOLE-O-METHYLTRANSFERASE VI. INHIBITORY ACTIVITIES OF SUBSTITUTED BENZOYLTRYPTAMINES AND BENZENESULFONYLTRYPTAMINES. 082762 13-01
- PROPRANOLOL INTERFERES WITH INHIBITORY BEHAVIOUR IN RATS. 086156 13-04
- THE EFFECTS OF EXCITATORY AND INHIBITORY AMINO ACIDS ON THE METABOLISM OF ENDOGENOUS BRAIN AMINO ACIDS IN THE NEMBUTALIZED MOUSE. 099266 13-03
- EFFECT OF PHYSOSTIGMINE ON THE INHIBITORY ACTION OF SCOPOLAMINE IN MAN. 105918 13-14
- INHIBITORY EFFECT OF CHLORPROMAZINE ON THE SYNDROME OF HYPERACTIVITY PRODUCED BY L-TRYPTOPHAN OR 5-METHOXY-N,N

## Subject Index

- DIMETHYLTRYPTAMINE TREATED WITH A MONOAMINE OXIDASE INHIBITOR.** 108795 13-03
- UNEXPLAINED INHIBITORY ACTION OF D-LYSERGIC ACID DIETHYLAMIDE (LSD) ON POSTGANGLIONIC MOTOR TRANSMISSION IN THE GUINEA-PIG VAS-DEFERENS.** 109198 13-03
- EFFECT OF NEMBUTAL ON THE INHIBITORY WAVE OF ANTIDROMICALLY INDUCED POTENTIAL IN THE MOTOR CORTEX OF THE CAT.** 111136 13-03
- ANTAGONISM BY PROPRANOLOL OF THE INHIBITORY EFFECT OF PHENOXYBENZAMINE ON NORADRENALINE UPTAKE IN VIVO.** 122553 13-03
- FURTHER OBSERVATION ON THE ENHANCEMENT BY MORPHINE OF THE CENTRAL DESCENDING INHIBITORY INFLUENCE ON SPINAL SENSORY TRANSMISSION.** 125358 13-03
- EXCITATORY ACTIONS OF GABA AND OF INHIBITORY NEURONS.** 125598 13-03
- INITIAL**
- RENAL LITHIUM ELIMINATION IN MANIC-DEPRESSIVE PATIENTS - INITIAL EXCRETION AND CLEARANCE.** 087000 13-13
- TREATMENT OF PATIENTS WITH TRAUMATIC EPILEPSY IN THE INITIAL PERIOD OF THE DISEASE.** 102827 13-13
- RUBIDIUM CHLORIDE INGESTION BY VOLUNTEER SUBJECTS: INITIAL EXPERIENCE.** 104438 13-07
- INJECTABLE**
- URINARY EXCRETION OF PERPHENAZINE AND ITS SULFOXIDE DURING ADMINISTRATION IN ORAL AND LONG-ACTING INJECTABLE FORM.** 102185 13-15
- CLINICAL AND ERGOTHERAPEUTIC EVALUATION OF FLUSPIRILENE (R-6218), A LONG-ACTING INJECTABLE NEUROLEPTIC, IN CHRONIC PSYCHOTIC PATIENTS.** 102577 13-07
- INJECTED**
- BEHAVIORAL EFFECTS OF DOPAMINE AND P-HYDROXYAMPHETAMINE INJECTED INTO CORPUS-STRIATUM OF RATS.** 085234 13-04
- EFFECT OF ESERINE INJECTED INTRAVENTRICULARLY ON BEHAVIOUR AND ON ACTIVITY OF CHOLINESTERASE IN SOME STRUCTURES OF THE CEREBRAL VENTRICLES OF THE CONSCIOUS CAT.** 106424 13-04
- EFFECT OF PSYCHOTROPIC AGENTS ON THE EMOTIONAL BEHAVIOR OF CATS INJECTED WITH ACETYLCHOLINE INTO THE CENTRAL GRAY MATTER.** 112007 13-04
- INJECTIBLE**
- INJECTIBLE DISPERSION OF DELTA9-TETRAHYDROCANNABINOL IN SALINE USING POLYVINYLPIRROLIDONE.** 088638 13-06
- INJECTION**
- DYSNOMIA AND IMPAIRMENT OF VERBAL MEMORY FOLLOWING INTRACAROTID INJECTION OF SODIUM AMYTAL.** 092159 13-14
- DEFICIT IN ACTIVE AVOIDANCE LEARNING IN RATS FOLLOWING PENICILLIN INJECTION INTO HIPPOCAMPUS.** 095382 13-04
- COURSE OF BODY TEMPERATURE IN NEUROLEPTIC INJECTION TREATMENTS: STATISTICAL EVALUATION OF RETROSPECTIVE DATA.** 098272 13-15
- MORPHINE TOLERANCE AND DEPENDENCE INDUCED BY INTRAVENTRICULAR INJECTION.** 099826 13-04
- THE DEVELOPMENT OF TOLERANCE TO AND OF PHYSICAL DEPENDENCE ON MORPHINE FOLLOWING INTRAVENTRICULAR INJECTION IN THE RAT.** 102883 13-04
- INTRASTRIATAL INJECTION OF QUATERNARY BUTYROPHENONES AND OXYPERTINE: NEUROLEPTIC EFFECT IN RATS.** 104374 13-04
- EFFECT OF POST-TRIAL INJECTION OF BETA ADRENERGIC BLOCKING AGENTS ON A CONDITIONED REFLEX IN RATS.** 104577 13-04
- EFFECTS OF SCOPOLAMINE INJECTION DURING CS-US INTERVAL ON CONDITIONING.** 105766 13-04
- PSYCHOMOTOR STIMULANT SELF-ADMINISTRATION AS A FUNCTION OF DOSAGE PER INJECTION IN THE RHEMUS MONKEY.** 111146 13-04
- EFFECT OF PUROMYCIN AND ACTINOMYCIN-D INJECTION INTO THE MESENCEPHALIC RETICULAR FORMATION ON THE CONDITIONED REFLEXES OF ANIMALS.** 113758 13-04

## Psychopharmacology Abstracts

- MODIFICATION OF AN OPERANT CONDITIONING IN RAT AFTER A SUBCUTANEOUS INJECTION OF HISTAMINE.** 119914 13-04
- CATATONIA INDUCED IN THE RABBIT BY INTRACEREBRAL INJECTION OF BRADYKININ AND MORPHINE.** 120716 13-03
- INJECTIONS**
- EFFECT OF INTRAVENTRICULAR INJECTIONS OF BRAIN ISOANTIBODIES ON LEARNING.** 085236 13-04
- THE EFFECT OF PRE- AND POST-TRIAL AMPHETAMINE INJECTIONS ON AVOIDANCE RESPONSES OF RATS.** 103944 13-04
- THE EFFECTS OF INTRAHYPOTHALAMIC INJECTIONS OF DESMETHYLIMIPRAMINE ON FOOD AND WATER INTAKE OF THE RAT.** 104806 13-04
- THERAPEUTIC EXPERIENCE WITH CHLORIMIPRAMINE INJECTIONS.** 105836 13-09
- JOINT EFFECTS OF MEDIAL SEPTAL LESIONS AND AMYLOBARBITONE INJECTIONS ON RESISTANCE TO EXTINCTION IN THE RAT.** 106392 13-04
- EFFECTS OF INTRAPERITONEAL INJECTIONS OF LITHIUM CHLORIDE ON THE ENTRY OF RADIOACTIVE CARBON ATOMS OF GLUCOSE AND AMINO ACIDS INTO MOUSE BRAIN AND OTHER TISSUES.** 106524 13-03
- EFFECTS OF POST-TRIAL INJECTIONS OF SCOPOLAMINE AND ESERINE ON ACQUISITION OF A SIMULTANEOUS BRIGHTNESS DISCRIMINATION.** 111052 13-04
- ALTERATIONS IN TREMOR REGULATION AFTER INTRACAUDATE INJECTIONS OF CALCIUM IONS OR DISODIUM EDETATE.** 122541 13-03
- INJURIES**
- ON THE EFFECT OF TEBONIN IN POST-TRAUMATIC BRAIN INJURIES.** 098562 13-11
- INJURY**
- EFFECT OF KIDNEY INJURY ON SOME PHARMACOLOGICAL PROPERTIES OF PHENOTHIAZINE DERIVATIVES.** 119689 13-05
- INOFAL**
- ALTERNATE APPLICATION OF MELLERIL SANDOZ (THIORIDAZINE) AND ITS METABOLITE INOFAL IN PSYCHIATRIC THERAPY.** 126007 13-11
- INPATIENTS**
- A REEVALUATION OF CINNARIZINE WITH GERIATRIC INPATIENTS.** 098229 13-14
- DOXEPIIN IN THE TREATMENT OF PSYCHONEUROTIC INPATIENTS.** 100539 13-10
- INPEA**
- PHYSICAL PERFORMANCE OF MICE TREATED WITH PROPRANOLOL, SOTALOL AND INPEA.** 120818 13-04
- INSECTICIDE**
- INSECTICIDE INHIBITION OF NA-K-ATPASE ACTIVITY.** 077871 13-03
- INSOMNIA**
- ACTION OF A BENZODIAZEPINE DERIVATIVE, RO-5-4200, ON THE EEG AND SLEEP CYCLE IN PATIENTS WITH INSOMNIA.** 098662 13-07
- TREATMENT OF EMOTIONAL SYMPTOMS AND INSOMNIA WITH PLEXONAL.** 099158 13-11
- THE CENTRAL METABOLISM OF SEROTONIN IN THE CAT DURING INSOMNIA: A NEUROPHYSIOLOGICAL AND BIOCHEMICAL STUDY AFTER ADMINISTRATION OF P-CHLOROPHENYLALANINE OR DESTRUCTION OF THE RAPHE SYSTEM.** 099261 13-03
- EFFECT OF PHENAMINE INDUCED INSOMNIA AND OF SUBSEQUENT SLEEP ON PROTEIN CONTENT IN THE NEURONS AND GLIAL CELLS OF THE SUPRAOPTIC AND RED NUCLEI OF THE BRAIN.** 111831 13-03
- INSOMNIAC**
- EFFECTS OF PLACEBO AND FLURAZEPAM ON SLEEP PATTERNS IN INSOMNIAC SUBJECTS.** 104367 13-14
- AN ANALYSIS OF THE EFFECTS OF METHAQUALONE AND GLUTETHIMIDE ON SLEEP IN INSOMNIAC SUBJECTS.** 105119 13-14
- INSTITUTE**
- ATTEMPTS AT TREATMENT WITH NEULEPTIL IN CHILDREN IN A SPECIAL INSTITUTE.** 086593 13-11
- INSTITUTIONAL**
- NEW POSSIBILITIES OF CONTROLLING STATES OF UNREST OF A PSYCHOMOTOR OR CEREBROSCLEROTIC NATURE IN INSTITUTIONAL GERIATRICS.** 102383 13-11

## INSTRUMENTAL

- AMOBARBITAL AND THE PARTIAL REINFORCEMENT EFFECT IN RATS.  
ISOLATING FRUSTRATIVE CONTROL OVER INSTRUMENTAL  
RESPONDING. 097414 13-14
- EFFECTS OF PUROMYCIN ON RETENTION OF INSTRUMENTAL TRAINING  
OF MICE. 106685 13-04

## INSULIN

- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: A STUDY OF THE  
ADRENOCORTICAL RESPONSE TO INTRAVENOUSLY ADMINISTERED  
INSULIN AND ACTH. 091370 13-08
- INSULIN RECEPTORS IN THE LIVER: SPECIFIC BINDING OF 125I INSULIN  
TO THE PLASMA MEMBRANE AND ITS RELATION TO INSULIN  
BIOACTIVITY (UNPUBLISHED PAPER). 092377 13-03
- GLUCOSE, INSULIN, AND FREE FATTY ACID METABOLISM IN  
PARKINSONS DISEASE TREATED WITH LEVODOPA. 096471 13-13
- METHAMPHETAMINE INDUCED INSULIN RELEASE. 099827 13-03
- EFFECTS OF INSULIN PREPARATIONS ON TITRATED SUCROSE  
REGULATION. 104074 13-04
- ONTOGENY OF AMPHETAMINE ANOREXIA AND INSULIN HYPERPHAGIA IN  
THE RAT. 106797 13-04
- COPPER SALTS IN TREATMENT OF SCHIZOPHRENIA AND THEIR EFFECT  
ON INSULIN THERAPY. 113429 13-08

## INTACT

- REINVESTIGATION OF THE EFFECTS OF GAMMA-HYDROXYBUTYRATE ON  
THE SLEEP CYCLE OF THE UNRESTRAINED INTACT CAT. 109621 13-03

## INTAKE

- EFFECTS OF MAGNESIUM PEMOLINE IN DIMETHYLSULFOXIDE ON  
REVERSAL LEARNING, MOTOR ACTIVITY, AND WATER INTAKE. 079611 13-04
- SPONTANEOUS ACTIVITY AND WATER INTAKE IN THE RAT UNDER THE  
EFFECTS OF SCOPOLAMINE HBR AND MAGNESIUM PEMOLINE. 086186 13-04
- PHENOTHIAZINE INTAKE AND STAFF ATTITUDES. 093270 13-17
- EFFECTS OF CONFLICT AND STRESS ON ALCOHOL INTAKE IN RATS. 101758 13-04
- SOME FACTORS CONTROLLING ORAL MORPHINE INTAKE IN RATS. 102195 13-04
- THE EFFECTS OF INTRAHYPOTHALAMIC INJECTIONS OF  
DESMETHYLMIPRAMINE ON FOOD AND WATER INTAKE OF THE RAT. 104806 13-04
- A NEW GAS CHROMATOGRAPHIC METHOD FOR THE DEMONSTRATION  
OF CANNABIS INTAKE BY ANALYSIS OF BIOLOGICAL FLUIDS. 123265 13-06
- THE INFLUENCE OF SUBCHRONIC TETRAHYDROCANNABINOL AND  
CANNABIS TREATMENT ON FOOD AND WATER INTAKE, BODY WEIGHT  
AND BODY TEMPERATURE OF RATS. 123267 13-03

## INTEGRATED

- STATISTICAL AMPLITUDE ANALYSIS OF THE INTEGRATED  
ELECTROCORTICOGRAM OF UNRESTRAINED RATS BEFORE AND AFTER  
PROCHLORPERMAZINE. 082863 13-03
- DECLINE IN THE MEAN INTEGRATED ELECTROENCEPHALOGRAPH VOLTAGE  
DURING MORPHINE ABSTINENCE IN THE RAT. 086106 13-03
- MEASUREMENT OF PHASIC INTEGRATED POTENTIALS (PIP) DURING  
TREATMENT WITH PARA-CHLOROPHENYLALANINE (PCPA)  
(UNPUBLISHED PAPER). 093258 13-14

## INTELLECTUAL

- CLINICAL STUDY OF PIRIBEDIL WITH SYNDROMES OF INTELLECTUAL  
DETERIORATION IN AMNESIA. 093701 13-11

## INTERACTION

- INTERACTION AND ACUTE CROSS-TOLERANCE BETWEEN ETHANOL AND  
HEXOBARBITONE IN THE RAT. 087344 13-04
- INTERACTION OF SEROTONIN ANTAGONISTS WITH HARMALINE INDUCED  
CHANGES IN OPERANT BEHAVIOR AND BODY TEMPERATURE IN THE  
RAT. 098160 13-03
- LYSERGIC ACID DIETHYLAMIDE TARTRATE (LSD-25) DOSAGE LEVELS,  
GROUP DIFFERENCES, AND SOCIAL INTERACTION. 098888 13-12
- PROLONGED TREATMENT WITH MORPHINE IN RATS: DRUG/BEHAVIOR  
INTERACTION UNDER AVERSIVE CONTROL. 103954 13-04

- PHYSOSTIGMINE AND PENTOBARBITAL: BIPHASIC INTERACTION IN MICE.  
104329 13-03
- THE HYPNOTIC EFFECTS OF CODEINE AND SECOBARBITAL AND THEIR  
INTERACTION IN MAN. 104365 13-14

- INTERACTION EFFECTS OF ETHANOL AND PYRAZOLE IN LABORATORY  
RODENTS. 104536 13-03

- CYCLOHEXIMIDE INDUCED AMNESIA: ITS INTERACTION WITH  
DETENTION. 104796 13-04

- AN EXPERIMENTAL AND CLINICAL CONTRIBUTION TO INTERACTION OF  
ALCOHOL AND DIAZEPAM. 105906 13-03

- ON THE INTERACTION OF SCOPOLAMINE AND PHYSOSTIGMINE IN MAN.  
105995 13-14

- ALCOHOL AND THE BENZODIAZEPINES: THE INTERACTION BETWEEN  
INTRAVENOUS ETHANOL AND CHLORDIAZEPOXIDE AND DIAZEPAM.  
106136 13-13

- LEVODOPA NICOTINIC ACID INTERACTION IN PSYCHIATRIC PATIENTS.  
107286 13-08

- INTERACTION OF PERSONALITY AND TREATMENT CONDITIONS  
ASSOCIATED WITH SUCCESS IN A SMOKING CONTROL PROGRAM.  
108268 13-17

- EFFECT OF P-CHLOROPHENYLALANINE ON AVOIDANCE CONDITIONING  
AND ITS INTERACTION WITH AMPHETAMINE. 110960 13-03

- PHARMACOLOGICAL INTERACTION OF LORAZEPAM WITH THIOPENTONE  
SODIUM AND SKELETAL NEUROMUSCULAR BLOCKING DRUGS.  
120410 13-03

- INTERACTION OF AMPHETAMINE AND FOOD DEPRIVATION ON A FOOD  
MOTIVATED OPERANT. 120960 13-04

- INTERACTION OF IMIPRAMINE, DESMETHYLMIPRAMINE,  
NORTRIPTYLINE, AND 1-NAPHTHOL WITH MICROSOMAL  
PREPARATIONS. 122576 13-03

- BEHAVIOURAL EFFECT OF AMANTADINE IN RATS AFTER INHIBITION OF  
MONOAMINE SYNTHESIS, STORAGE AND RECEPTOR INTERACTION.  
123277 13-03

- THE BEHAVIORAL EFFECTS OF A NEW PSYCHOACTIVE DRUG (D-CARBINE)  
ON A PASSIVE AVOIDANCE RESPONSE AND LOCOMOTION AND ITS  
INTERACTION WITH AMPHETAMINE. 124104 13-02

## INTERACTIONS

- COMPARATIVE STUDIES OF VARIOUS AMPHETAMINE ANALOGUES  
DEMONSTRATING DIFFERENT INTERACTIONS WITH THE METABOLISM  
OF THE CATECHOLAMINES IN THE BRAIN. 079069 13-04

- PROGESTERONE ESTROGEN INTERACTIONS IN THE CONTROL OF ACTIVITY  
WHEEL RUNNING IN THE FEMALE RAT. 086683 13-14

- INTERACTIONS OF SCOPOLAMINE AND PHYSOSTIGMINE WITH ECS AND  
ONE TRIAL LEARNING. 088582 13-04

- A METHOD TO MEASURE INTERACTIONS OF VARIOUS AGENTS AND  
ETHANOL ON BEHAVIORAL PERFORMANCE IN RATS. MEDICINE. 088624 13-06

- INTERACTIONS BETWEEN NALOXONE AND CHLORPROMAZINE ON  
BEHAVIOR UNDER SCHEDULE CONTROL. 104826 13-03

- INTERACTIONS OF MORPHINE AND NALORPHINE WITH PHYSOSTIGMINE  
ON OPERANT BEHAVIOR IN THE RAT. 107631 13-04

- INTERACTIONS OF DELTA9-TETRAHYDROCANNABINOL WITH THE HEPATIC  
MICROSOMAL DRUG METABOLIZING SYSTEM. 107865 13-03

- FUNCTIONAL INTERACTIONS BETWEEN ALDOLASE AND  
CHLORPROMAZINE. 119698 13-03

- INTERACTIONS BETWEEN CATECHOLAMINES AND TRICYCLIC AND  
MONOAMINE OXIDASE INHIBITOR ANTIDEPRESSIVE AGENTS IN MAN.  
120418 13-13

## INTERCALATE

- LSD-25 DOES NOT INTERCALATE IN DNA. 101768 13-03

## INTERFERENCE

- CHEMICAL INTERFERENCE WITH AGING. 095301 13-17

- DRUG INTERFERENCE WITH MEASUREMENT OF ADRENAL HORMONES IN  
URINE: ANALGESICS AND TRANQUILIZER SEDATIVES. 104427 13-13

- INTERFERENCE OF CHEMOLUMINESCENCE WITH 3H SCINTILLATION  
COUNTING. 105405 13-06

- THE INTERFERENCE OF TRICYCLIC PSYCHOACTIVE DRUGS ON THE  
UPTAKE OF BIOGENIC AMINES BY ISOLATED MAST CELLS. 123282 13-03

# Subject Index

# Psychopharmacology Abstracts

## INTERFERES

- PROPRANOLOL INTERFERES WITH INHIBITORY BEHAVIOUR IN RATS.  
086156 13-04

## INTERMEDIATE

- PHENYLACETONE OXIME - AN INTERMEDIATE IN THE OXIDATIVE  
DEAMINATION OF AMPHETAMINE.  
108398 13-03

## INTERMITTENT

- INCREASES IN SPONTANEOUS ACTIVITY FOLLOWING INTERMITTENT  
IMIPRAMINE ADMINISTRATION.  
102196 13-04

## INTERNAL

- ANOREXIA-NERVOSA, ITS PSYCHIATRIC, INTERNAL AND SURGICAL  
PROBLEMS.  
087042 13-10  
LIDANIL - A NEW TRANQUILIZING AGENT IN THE CLINIC OF INTERNAL  
DISEASES.  
110474 13-07  
EFFECT OF THAMATOLOGIC CHANGES ON THE IMIPRAMINE CONTENT OF  
INTERNAL ORGANS.  
126160 13-03

## INTERNEURON

- STRUCTURE OF THE NEURON AND INTERNEURON LINKS IN THE BRAIN OF  
RATS UNDER THE EFFECT OF CAFFEINE AND PHENAMINE.  
111137 13-03

## INTERRELATIONS

- INTERRELATIONS OF FOLIC ACID AND VITAMIN-B12 IN DRUG TREATED  
EPILEPTIC PATIENTS.  
106063 13-11

## INTERVAL

- EFFECT OF CHLORPROMAZINE ON CONDITIONED AVOIDANCE AS A  
FUNCTION OF CS-US INTERVAL LENGTH.  
104579 13-04  
EFFECTS OF SCOPOLAMINE INJECTION DURING CS-US INTERVAL ON  
CONDITIONING.  
105766 13-04

## INTESTINE

- METABOLISM OF CHLORPROMAZINE AND P-NITROBENZOIC ACID IN THE  
LIVER, INTESTINE AND KIDNEY OF THE HUMAN FETUS.  
088540 13-13

## INTOXICATION

- ACUTE PHENOTHIAZINE INTOXICATION IN CHILDREN.  
088512 13-15  
EFFECTS OF ACUTE AND CHRONIC AMPHETAMINE INTOXICATION ON  
BRAIN CATECHOLAMINES IN THE GUINEA-PIG.  
088539 13-03  
RESIN HEMODIUSION: A NEW TREATMENT FOR ACUTE DRUG  
INTOXICATION.  
089039 13-16  
EFFECT OF CHRONIC METHAMPHETAMINE INTOXICATION IN RHESUS  
MONKEYS.  
097456 13-04  
ACUTE INTOXICATION BY MEPROBAMATE: CLINICAL AND MEDICO-LEGAL  
ASPECTS.  
100404 13-15  
IMIPRAMINE TISSUE REPARTITION BREAKDOWN IN MAN AS RELATED TO  
SIX CASES OF FATAL INTOXICATION.  
100406 13-15  
SEVERE LITHIUM INTOXICATION: MANAGEMENT WITHOUT DIALYSIS AND  
REPORT OF A POSSIBLE TERATOGENIC EFFECT OF LITHIUM.  
101174 13-15  
ON THE INFLUENCE OF HALOPERIDOL ON LYSERGIC ACID INTOXICATION.  
102792 13-03  
ECG CHANGES IN FATAL IMIPRAMINE (TOFRANIL) INTOXICATION.  
105387 13-15  
ACCIDENTAL CONDITIONING WITH CHRONIC METHAMPHETAMINE  
INTOXICATION: IMPLICATIONS FOR A THEORY OF DRUG  
HABITUATION.  
110187 13-04  
ADMINISTRATION OF NOVOCAIN IN SOME COMATOSE STATES  
FOLLOWING INTOXICATION.  
118128 13-15  
EXOGENOUS PSYCHOSIS FOLLOWING ACCIDENTAL HALOPERIDOL  
INTOXICATION.  
118217 13-15  
MYOCARDIAL INFARCTION FOLLOWING INTOXICATION WITH ETHANOL  
AND CHLORPROMAZINE.  
118662 13-15  
HALLUCINOSIS FOLLOWING INTOXICATION WITH PHOSCHLORIDE R-20.  
122950 13-15

## INTRACAROTID

- DYSNOMIA AND IMPAIRMENT OF VERBAL MEMORY FOLLOWING  
INTRACAROTID INJECTION OF SODIUM AMYTAL.  
092159 13-14  
DEPRESSION AND CEREBRAL DOMINANCE: A STUDY OF BILATERAL  
INTRACAROTID AMYTAL IN ELEVEN DEPRESSED PATIENTS.  
093815 13-09

## INTRACAUDATE

- ALTERATIONS IN TREMOR REGULATION AFTER INTRACAUDATE  
INJECTIONS OF CALCIUM IONS OR DISODIUM EDTATE.  
122541 13-03

## INTRACELLULAR

- A METHOD FOR DETECTING INTRACELLULAR CYCLIC ADENOSINE  
MONOPHOSPHATE BY IMMUNOFLOURESCENCE. (UNPUBLISHED PAPER).  
107113 13-06  
INTRACELLULAR BINDING AND METABOLISM OF IMIPRAMINE AND  
IMIPRAMINE-N-OXIDE.  
122577 13-03

## INTRACEREBRAL

- INTRACEREBRAL LESIONS CAUSING STEREOTYPED BEHAVIOUR IN RATS.  
117681 13-03  
CATATONIA INDUCED IN THE RABBIT BY INTRACEREBRAL INJECTION OF  
BRADYKININ AND MORPHINE.  
120716 13-03

## INTRACEREBRALLY

- ANTAGONISM OF INTRACEREBRALLY INDUCED NICOTINIC CONVULSIONS  
IN MICE: A METHOD FOR MEASURING THE CENTRAL ANTINICOTINIC  
ACTIVITY OF CNS ACTING AGENTS.  
104807 13-06

## INTRACISTERNAL

- CATABOLISM OF 3H-HISTAMINE IN THE RAT BRAIN AFTER  
INTRACISTERNAL ADMINISTRATION.  
107194 13-03

## INTRACRANIAL

- BEHAVIORAL AND EEG PATTERNS IN THE CAT COINCIDENT WITH  
SYSTEMATIC AND INTRACRANIAL STIMULATION WITH D-  
AMPHETAMINE SULFATE DURING A VISUAL DISCRIMINATION TASK.  
(PH.D.DISSERTATION).  
102635 13-03

## INTRACTABLE

- TREATMENT OF INTRACTABLE NARCOLEPSY WITH A MONOAMINE  
OXIDASE INHIBITOR.  
103248 13-14

## INTRAHYPOTHALAMIC

- THE EFFECTS OF INTRAHYPOTHALAMIC INJECTIONS OF  
DESMETHYLIMIPRAMINE ON FOOD AND WATER INTAKE OF THE RAT.  
104806 13-04

## INTRAMUSCULAR

- THE CLINICAL EFFECTS OF INTRAMUSCULAR THIOETHIXENE AND  
TRIFLUOPERAZINE IN CHRONIC SCHIZOPHRENIA: A COMPARATIVE  
STUDY.  
077822 13-08  
COMBINED INTRAMUSCULAR ADMINISTRATION OF DEPO  
FLUPHENAZINE AND BENZOTROPINE MESYLATE IN CHRONIC  
SCHIZOPHRENIC PATIENTS.  
098602 13-08  
ANALGESIC ACTIVITY OF ORAL AND INTRAMUSCULAR PROFADOL.  
104366 13-11

## INTRAPERITONEAL

- EFFECTS OF INTRAPERITONEAL INJECTIONS OF LITHIUM CHLORIDE ON  
THE ENTRY OF RADIOACTIVE CARBON ATOMS OF GLUCOSE AND  
AMINO ACIDS INTO MOUSE BRAIN AND OTHER TISSUES.  
106524 13-03

## INTRASTRIAL

- INTRASTRIAL INJECTION OF QUATERNARY BUTYROPHENONES AND  
OXYPERTINE: NEUROLEPTIC EFFECT IN RATS.  
104374 13-04

## INTRAVENOUS

- CARDIOVASCULAR EFFECTS OF INTRAVENOUS MORPHINE IN THE  
ANESTHETIZED RAT.  
079063 13-03  
THE EFFECT OF INTRAVENOUS ETHYL-ALCOHOL ON THE CORONARY  
CIRCULATION AND MYOCARDIAL CONTRACTILITY OF THE HUMAN  
AND CANINE HEART.  
087032 13-13  
FACTORS AFFECTING BEHAVIOR MAINTAINED BY RESPONSE CONTINGENT  
INTRAVENOUS INFUSIONS OF AMPHETAMINE IN SQUIRREL MONKEYS.  
089060 13-04  
ACTIONS AND METABOLISM OF HEROIN ADMINISTERED BY CONTINUOUS  
INTRAVENOUS INFUSION TO MAN.  
100417 13-13  
INTRAVENOUS DIAZEPAM IN THE TREATMENT OF PROLONGED SEIZURE  
ACTIVITY IN NEONATES AND INFANTS.  
101560 13-11  
INTRAVENOUS DIAZEPAM FOR DIRECT CURRENT CARDIOVERSION.  
101990 13-16  
THE USE OF INTRAVENOUS DIAZEPAM IN STUPOR.  
102798 13-09  
BLOOD PRESSURE/PULSE RESPONSES TO INTRAVENOUS METHACHOLINE  
IN PSYCHIATRIC ILLNESS.  
102836 13-13  
BLOCKADE OF INTRAVENOUS AMPHETAMINE EUPHORIA IN MAN.  
105083 13-13

- ALCOHOL AND THE BENZODIAZEPINES: THE INTERACTION BETWEEN INTRAVENOUS ETHANOL AND CHLORDIAZEPOXIDE AND DIAZEPAM. 106136 13-13
- INTRAVENOUS DIAZEPAM. 113999 13-15
- CLIFF JUMPING IN RATS AFTER INTRAVENOUS TREATMENT WITH APOMORPHINE. 125167 13-04
- TREATMENT OF STATUS-EPILEPTICUS WITH INTRAVENOUS CHLORDIAZEPOXIDE (LIBRIUM). 125574 13-14
- EASY METHOD OF HYPNOTIC TREATMENT WITH INTRAVENOUS DIAZEPAM. 126039 13-14
- INTRAVENOUSLY**
- EFFICACY OF INTRAVENOUSLY USED PROMAZINE IN ACUTE PSYCHOMOTOR AGITATION. 089307 13-11
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: A STUDY OF THE ADRENOCORTICAL RESPONSE TO INTRAVENOUSLY ADMINISTERED INSULIN AND ACTH. 091370 13-08
- INTRAVENTRICULAR**
- EFFECT OF INTRAVENTRICULAR INJECTIONS OF BRAIN ISOANTIBODIES ON LEARNING. 085236 13-04
- A DEVICE FOR THE CHRONIC INTRAVENTRICULAR INFUSION IN FREELY MOVING RATS. 088576 13-06
- MORPHINE TOLERANCE AND DEPENDENCE INDUCED BY INTRAVENTRICULAR INJECTION. 099826 13-04
- THE DEVELOPMENT OF TOLERANCE TO AND OF PHYSICAL DEPENDENCE ON MORPHINE FOLLOWING INTRAVENTRICULAR INJECTION IN THE RAT. 102883 13-04
- INTRAVENTRICULARLY**
- CENTRAL ACTION OF PHENTOLAMINE ADMINISTERED INTRAVENTRICULARLY IN THE RAT. 104434 13-03
- EFFECT OF ESERINE INJECTED INTRAVENTRICULARLY ON BEHAVIOUR AND ON ACTIVITY OF CHOLINESTERASE IN SOME STRUCTURES OF THE CEREBRAL VENTRICLES OF THE CONSCIOUS CAT. 106424 13-04
- EFFECT OF INTRAVENTRICULARLY APPLIED SODIUM OROTATE ON A CONDITIONED AVOIDANCE RESPONSE OF THE RAT. 119690 13-04
- INTRODUCE**
- THE DEVELOPMENT OF SYNTHETIC TECHNIQUES TO INTRODUCE A FUNCTIONALIZED CARBON SUBSTITUENT REGIOSELECTIVELY INTO THE BENZENE RING OF AN INDOLE NUCLEUS. 112783 13-01
- INVESTIGATE**
- ADMINISTRATION OF TWO OF MORE RELATED DRUGS TO INVESTIGATE THE EFFECT OF MOLECULAR MODIFICATION AND FORMULATION ON DRUG ABSORPTION, METABOLISM AND EXCRETION. 106908 13-13
- INVESTIGATED**
- BEHAVIOR AND HOW IT IS AFFECTED BY DRUGS IS BEING INVESTIGATED BY THE NORTH-CAROLINA DEPARTMENT OF MENTAL HEALTH BY USING SPIDERS AS LABORATORY ANIMALS. 086126 13-04
- CLINICAL POSSIBILITIES OF THE EVALUATION OF PHARMACOTHERAPY, INVESTIGATED BY TESTING THE EFFECTIVENESS OF THE NEUROLEPTIC DRUG PIMOZIDE. 104226 13-07
- INVESTIGATING**
- METHODS FOR INVESTIGATING BARBITURATE TOLERANCE. 087362 13-06
- INVESTIGATING THE PSYCHOTROPIC EFFECT OF 1,10-TRIMETHYLENE-PYRAZINOINDOLE. 111290 13-03
- INVESTIGATION**
- THE EFFECT OF A THYMOLEPTIC DRUG UPON INHIBITION OF DRIVE IN ENDOGENOUS DEPRESSION: A QUANTITATIVE STATISTICAL INVESTIGATION. 087291 13-09
- COMPARATIVE PSYCHOPHARMACOLOGIC INVESTIGATION OF CRYOGENINE, CERTAIN NONSTEROID ANTIINFLAMMATORY COMPOUNDS, LUPINE ALKALOIDS AND CYPROHEPTADINE. 091281 13-02
- CLINICAL EFFECTIVENESS OF CLOZAPINE (INVESTIGATION WITH THE AMP SYSTEM). 099030 13-08
- CLINICAL INVESTIGATION OF DOXEPIN IN DEPRESSED PATIENTS. PILOT OPEN STUDY, CONTROLLED DOUBLE-BLIND TRIAL VERSUS IMIPRAMINE, AND ALL-NIGHT POLYGRAPHIC STUDY. 099031 13-10
- LITHIUM SALTS AS SEDATIVES: AN INVESTIGATION INTO THE POSSIBLE EFFECT OF LITHIUM ON ACUTE ANXIETY. 100811 13-10
- CLINICAL AND PHARMACOLOGICAL INVESTIGATION OF A NEW PSYCHOTROPIC DRUG SULPIRIDE (DOGMATIL). 105825 13-07
- HANDWRITING CHANGES FOLLOWING MEPROBAMATE AND ALCOHOL: A GRAPHOMETRIC GRAPHOLOGICAL INVESTIGATION. 106143 13-14
- EXPERIMENTAL AND CLINICAL INVESTIGATION OF THE NEW PSYCHOSTIMULATOR SYDNOCARB. 107728 13-13
- THE EFFECT OF METHYLPHENIDATE ON BEHAVIOR OF THREE SCHOOL CHILDREN: A PILOT INVESTIGATION. 108231 13-11
- INVESTIGATIONS**
- EFFECTS OF QUINALBARBITONE (SECOBARBITAL) AND NITRAZEPAM ON THE EEG IN MAN: QUANTITATIVE INVESTIGATIONS. 082826 13-13
- CLINICAL AND EXPERIMENTAL PSYCHOLOGICAL INVESTIGATIONS OF THE EFFECT OF ANTIANDROGEN CYPROTERONE ACETATE IN SLIGHTLY IRRESPONSIBLE AND GROSSLY IRRESPONSIBLE SEXUAL DELINQUENTS. 088693 13-11
- DIGITAL COMPUTER ANALYZED RESTING AND SLEEP EEG INVESTIGATIONS AND CLINICAL CHANGES DURING MOLINDONE TREATMENT. 107244 13-08
- INVESTIGATIONS ON THE ELECTROLYTE CONTENTS OF ANATOMICALLY DEFINED PARTS OF THE BRAIN IN NORMAL AND LITHIUM-TREATED RATS. 123279 13-03
- INVESTIGATOR**
- THE PHARMACOLOGIST - CLINICAL INVESTIGATOR DIALOGUE IN EVALUATION OF NEW PSYCHOTHERAPEUTIC DRUGS. 078956 13-07
- INVOLVED**
- EFFECT OF CHRONIC ADMINISTRATION OF NICOTINE ON THE CONCENTRATIONS OF ADRENAL ENZYMES INVOLVED IN THE SYNTHESIS AND METABOLISM OF ADRENALINE. 104535 13-03
- INVOLVEMENT**
- ADRENERGIC CHOLINERGIC INVOLVEMENT IN MODULATION OF LEARNED BEHAVIOR. 086423 13-04
- THE INVOLVEMENT OF CENTRAL CHOLINERGIC MECHANISMS IN THE FORMATION AND INHIBITION OF CONDITIONAL REFLEXES IN RATS. 098295 13-04
- INVOLVING**
- EFFECT OF TRIPERIDOL ON PROCESSES INVOLVING ACETYLCHOLINE IN RAT BRAIN IN VITRO. 086821 13-03
- ION**
- EFFECTS OF CHLORPROMAZINE AND PROPRANOLOL ON LEFT VENTRICULAR SYSTOLIC PRESSURE, ECG, AND POTASSIUM ION EFFLUX IN THE ISOLATED PERFUSED RAT HEART. 103311 13-03
- IONS**
- ALTERATIONS IN TREMOR REGULATION AFTER INTRACAUDATE INJECTIONS OF CALCIUM IONS OR DISODIUM EDETATE. 122541 13-03
- IRIS**
- EFFECT OF RESERPINE ON RELEASE OF (3H)NORADRENALINE, (3H)DOPAMINE AND (3H)METARAMINOL FROM FIELD STIMULATED RAT IRIS. 118563 13-03
- IRRATIONAL**
- MEPROBAMATE: A STUDY OF IRRATIONAL DRUG USE. 088142 13-17
- IRRESPONSIBLE**
- CLINICAL AND EXPERIMENTAL PSYCHOLOGICAL INVESTIGATIONS OF THE EFFECT OF ANTIANDROGEN CYPROTERONE ACETATE IN SLIGHTLY IRRESPONSIBLE AND GROSSLY IRRESPONSIBLE SEXUAL DELINQUENTS. 088693 13-11
- IRREVERSIBLE**
- FURTHER STUDIES ON THE NATURE OF PERSISTENT RESERPINE BINDING: EVIDENCE FOR REVERSIBLE AND IRREVERSIBLE BINDING. 086820 13-03
- ISAY**
- THE PREPARATION OF 6 SUBSTITUTED PTERINS VIA THE ISAY REACTION (UNPUBLISHED PAPER). 092896 13-01
- ISOANTIBODIES**
- EFFECT OF INTRAVENTRICULAR INJECTIONS OF BRAIN ISOANTIBODIES ON LEARNING. 085236 13-04
- ISOCARBOXAZID**
- LITHIUM CARBONATE AND ISOCARBOXAZID - AN EFFECTIVE DRUG APPROACH IN SEVERE DEPRESSIONS. 088144 13-07

# Subject Index

- SPECIES AND AGE DIFFERENCES IN THE ACTIVITY OF ISOCARBOXAZID  
HYDROLYSING ENZYME. 104324 13-03
- ISOENZYMES**  
DIFFERENT EFFECT OF CHLORPROMAZINE ON THE ACTIVITY OF  
CRYSTALLINE LACTIC DEHYDROGENASE ISOENZYMES. 108717 13-03
- ISOLATED**  
UPTAKE, METABOLISM AND EXCRETION OF DESMETHYLIMIPRAMINE  
AND ITS METABOLITES IN THE ISOLATED PERFUSED RAT LIVER. 098616 13-03  
EFFECTS OF CHLORPROMAZINE AND PROPRANOLOL ON LEFT  
VENTRICULAR SYSTOLIC PRESSURE, ECG, AND POTASSIUM ION EFFLUX  
IN THE ISOLATED PERFUSED RAT HEART. 103311 13-03  
EFFECTS OF METHADONE ON THE ACTION OF CATECHOLAMINES IN  
ISOLATED PREPARATIONS. 104328 13-03  
THE INFLUENCE OF SOME SELECTED PSYCHOACTIVE DRUGS ON THE  
SPONTANEOUS CONTRACTILE ACTIVITY OF THE ISOLATED MURINE  
PORTAL VEIN. 104964 13-03  
THE EFFECTS OF ESERINE AND ATROPINE ON THE EPILEPTIFORM  
ACTIVITY OF CHRONICALLY ISOLATED CORTEX. 106065 13-03  
SOME BRONCHOCONSTRICTING AND BRONCHODILATING RESPONSES OF  
HUMAN ISOLATED BRONCHI. EVIDENCE FOR THE EXISTENCE OF  
ALPHA-ADRENORECEPTORS. 106429 13-13  
EFFECTS OF SOME SYMPATHOMIMETIC DRUGS AND THEIR ANTAGONIST  
ON AFTERDISCHARGES ELICITED IN CHRONICALLY ISOLATED SLABS OF  
CEREBRAL CORTEX. 108793 13-03  
EFFECT OF CHLORPROMAZINE ON THE FUNCTION OF THE PERFUSED  
ISOLATED LIVER. 118569 13-05  
EFFECTS OF CHLORPROMAZINE, DL-PROPRANOLOL, AND D-PROPRANOLOL  
IN THE ISOLATED RAT HEART. MODIFICATION OF THE RESPONSE TO  
ISOPRENALINE AND GLUCAGON. 120719 13-03  
ANALYSIS OF THE SUPERSENSITIVITY TO NORADRENALINE INDUCED BY  
AMPHETAMINE IN THE ISOLATED VAS-DEFERENS OF THE RAT. 121065 13-03  
POTENTIATION BY COCAINE OF RESPONSES OF THE GUINEA-PIG  
ISOLATED TRACHEAL CHAIN TO ETHYLNORADRENALINE AND ALPHA-  
METHYLNORADRENALINE. 122550 13-03  
THE INTERFERENCE OF TRICYCLIC PSYCHOACTIVE DRUGS ON THE  
UPTAKE OF BIOGENIC AMINES BY ISOLATED MAST CELLS. 123282 13-03
- ISOLATING**  
AMOBARBITAL AND THE PARTIAL REINFORCEMENT EFFECT IN RATS:  
ISOLATING FRUSTRATIVE CONTROL OVER INSTRUMENTAL  
RESPONDING. 097414 13-14
- ISOLATION**  
CACTUS ALKALOIDS X. ISOLATION OF HORDENINE AND N-  
METHYLTYRAMINE FROM ARIOCARPUS-KOTSCHOUBEYANUS. 079413 13-01  
THE METABOLISM OF HEXOBARBITAL IN MICE AND METHODOLOGY FOR  
ISOLATION AND QUANTITATION OF ITS METABOLITES IN VIVO AND IN  
VITRO. 082782 13-03  
THE IDENTIFICATION, ISOLATION, AND PRESERVATION OF DELTA9-  
TETRAHYDROCANNABINOL (DELTA9-THC). 088583 13-01  
INFLUENCE OF ISOLATION ON THE AGGRESSIVE BEHAVIOR INDUCED BY  
APOMORPHINE IN THE RAT. 104430 13-04  
EFFECTS OF ANTIHISTAMINES ON ISOLATION INDUCED FIGHTING IN  
MICE. 125247 13-04
- ISOLE**  
THE INFLUENCE OF HARMINE ON BIOELECTRIC ACTIVITY IN CEREBRAU  
ISOLE RATS. 125071 13-03
- ISOMETHADONE**  
IDENTIFICATION AND QUANTITATIVE DETERMINATION OF SOME  
METABOLITES OF METHADONE, ISOMETHADONE AND  
NORMETHADONE. 077906 13-05
- ISOPRENALINE**  
EFFECTS OF CHLORPROMAZINE, DL-PROPRANOLOL, AND D-PROPRANOLOL  
IN THE ISOLATED RAT HEART. MODIFICATION OF THE RESPONSE TO  
ISOPRENALINE AND GLUCAGON. 120719 13-03

# Psychopharmacology Abstracts

- ISOPROPYLAMINO-2-PROPRANOLOL**  
THE INFLUENCE OF 1-(4-ALLYLPHENOXY)-3-ISOPROPYLAMINO-2-  
PROPRANOLOL HYDROCHLORIDE (ALPRENOLOL) ON THE CENTRAL  
NERVOUS SYSTEM OF THE RAT. 124105 13-03
- ISOPROTERENOL**  
EFFECT OF ATROPINE ON DRINKING INDUCED BY CARBACHOL,  
ANGIOTENSIN AND ISOPROTERENOL. 101966 13-04  
EFFECTS OF ISOPROTERENOL ON RAT PLASMA CREATINE  
PHOSPHOKINASE ACTIVITY. 106150 13-03
- JB-336**  
JB-336 EFFECT ON THE CENTRAL ADRENERGIC SYSTEM. 105992 13-03  
CENTRAL ANTICHOLINERGIC ACTIVITY OF JB-336. 105993 13-03
- JUDGMENT**  
JUDGMENT OF THE EFFECTS OF MINOR TRANQUILIZERS. 123048 13-17
- JUDGMENTS**  
EFFECTS OF ALCOHOL AND METHYLPHENIDATE ON COMPLEX  
JUDGMENTS. 113919 13-13
- JUMPING**  
CLIFF JUMPING IN RATS AFTER INTRAVENOUS TREATMENT WITH  
APOMORPHINE. 125167 13-04
- JUNCTIONS**  
SOME ACTIONS OF DELTA1-TETRAHYDROCANNABINOL AND  
CANNABIDIOL AT CHOLINERGIC JUNCTIONS. 087358 13-03
- KAVA**  
ON THE SEDATIVE ACTION OF THE KAVA RHIZOME (PIPER-METHYST). 123278 13-03
- KETAMINE**  
THE USE OF KETAMINE HYDROCHLORIDE. 089343 13-15  
COMPARATIVE LEARNING IMPAIRMENT AND AMNESIA BY SCOPOLAMINE  
PHENCYCLIDINE, AND KETAMINE. 101352 13-04  
PSYCHOSIS AND KETAMINE. 105089 13-15
- KETIPRAMINE**  
KETIPRAMINE FUMARATE AS COMPARED TO IMIPRAMINE IN DEPRESSED  
OUTPATIENTS. 077823 13-09
- KETO-IMIPRAMINE**  
OPEN TRIAL EVALUATION OF KETO-IMIPRAMINE. 083163 13-07
- KIDNEY**  
METABOLISM OF CHLORPROMAZINE AND P-NITROBENZOIC ACID IN THE  
LIVER, INTESTINE AND KIDNEY OF THE HUMAN FETUS. 088540 13-13  
EFFECT OF KIDNEY INJURY ON SOME PHARMACOLOGICAL PROPERTIES  
OF PHENOTHIAZINE DERIVATIVES. 119689 13-05  
TOXIC EFFECT OF LSD-25 ON A CULTURE OF KIDNEY CELLS FROM  
CERCOPITHECUS-AETHIOPS MONKEYS. 125418 13-05
- KILLING**  
EVIDENCE FOR INHIBITION BY BRAIN SEROTONIN OF MOUSE KILLING  
BEHAVIOR IN RATS. 099794 13-04
- KINETIC**  
RECEPTOR DUALISM: SOME KINETIC IMPLICATIONS. (UNPUBLISHED  
PAPER). 107885 13-16
- KINETICS**  
KINETICS OF THE GLUCOCORTICOID MEDIATED INDUCTION OF  
PHENYLETHANOLAMINE N METHYL TRANSFERASE IN THE  
HYPOPHYSECTOMIZED RAT. 108720 13-03  
GENETIC CONTROL OF NORTRIPTYLINE KINETICS IN MAN - A STUDY OF  
RELATIVES OF PROPOSITI WITH HIGH PLASMA CONCENTRATION. 122578 13-13
- L-AMPHETAMINE**  
DIFFERENTIAL EFFECTS OF D- AND L-AMPHETAMINE ON BEHAVIOR AND  
ON CATECHOLAMINE DISPOSITION IN DOPAMINE AND  
NOREPINEPHRINE CONTAINING NEURONS OF RAT BRAIN. 078134 13-04  
THE COMPARISON OF THE STEREOTYPED BEHAVIOR INDUCING EFFECTS  
OF D-AMPHETAMINE AND L-AMPHETAMINE IN DOGS. 099110 13-04

- L-DELTA-TETRAHYDROCANNABINOL**  
EFFECTS OF L-DELTA-TETRAHYDROCANNABINOL ON TEMPORALLY  
SPACED RESPONDING AND DISCRIMINATED SIDMAN AVOIDANCE  
BEHAVIOR IN RATS. 089924 13-04
- L-DOPA**  
EMOTIONAL DISTURBANCE ACCOMPANYING THE TREATMENT OF  
PARKINSONISM WITH L-DOPA. 069514 13-14  
SIDE-EFFECTS OF L-DOPA TREATMENT. 082810 13-15  
A CASE WITH GILLES-DE-LA-TOURETTES SYNDROME; RECURRENT  
REFRACTORYNESS TO HALOPERIDOL AND UNSUCCESSFUL TREATMENT  
WITH L-DOPA. 085013 13-10  
STUDIES OF ALPHA-METHYL-P-TYROSINE, L-DOPA, AND L-TRYPTOPHAN  
IN DEPRESSION AND MANIA. 085448 13-09  
L-DOPA IN PARKINSONISM: A POSSIBLE MECHANISM OF ACTION  
(UNPUBLISHED PAPER). 085956 13-13  
BEHAVIORAL EFFECTS OF L-DOPA IN MAN (UNPUBLISHED PAPER).  
088387 13-11  
POTENTIATION OF EFFECTS OF L-DOPA ON CONDITIONED AVOIDANCE  
BEHAVIOR BY INHIBITION OF EXTRACEREBRAL DOPA-DECARBOXYLASE.  
088685 13-03  
SEXUAL BEHAVIOR DURING L-DOPA TREATMENT FOR PARKINSONISM.  
091448 13-10  
EFFECTS OF L-DOPA IN AUTISM. 092573 13-11  
CATECHOLAMINES AND AFFECTIVE ILLNESS: STUDIES WITH L-DOPA AND  
ALPHA-METHYL-P-TYROSINE (UNPUBLISHED PAPER). 092897 13-09  
ANTIPARKINSONIAN EFFICACY AND TOXICITY OF L-DOPA ALONE AND IN  
COMBINATION WITH ALPHA-METHYLDOPAHYDRAZINE (MDH)  
(UNPUBLISHED PAPER). 092899 13-09  
L-DOPA IN PARKINSONISM (UNPUBLISHED PAPER). 092998 13-13  
AMYOTROPHIC LATERAL SCLEROSIS: METABOLISM OF CENTRAL  
MONOAMINES AND TREATMENT WITH L-DOPA (UNPUBLISHED PAPER).  
093081 13-13  
IN VIVO CHEMOTAXIS DIFFUSION OF L-DOPA. 098208 13-06  
EFFECT OF L-DOPA TREATMENT ON BRAIN SEROTONIN METABOLISM IN  
DEPRESSED PATIENTS. 098686 13-13  
INHIBITION OF L-PHENYLALANINE ABSORPTION BY L-DOPA IN PATIENTS  
WITH PARKINSONISM. 099851 13-13  
EXTRAPYRAMIDAL AFFLICTION IN TWO YOUNG BROTHERS;  
REMARKABLE EFFECTS OF TREATMENT WITH L-DOPA. 101377 13-11  
L-DOPA IN THE TREATMENT OF DEPRESSIVE SYMPTOMS. 101888 13-09  
THE TOXICITY OF TWO MAO INHIBITORS COMBINED WITH 5-HTP OR L-  
DOPA IN ANESTHETIZED MICE. 103314 13-05  
EXPLORATION OF THE ANTIDEPRESSANT POTENTIAL OF L-DOPA. 104142 13-04  
THE EFFECT OF L-DOPA ON BRAIN CATECHOLAMINES AND MOTILITY IN  
RATS. 104575 13-03  
PRELIMINARY CLINICAL TRIAL WITH L-DOPA IN NARCOLEPSY. 104833 13-15  
THERAPEUTIC GUIDELINES AND SIDE-EFFECTS ENCOUNTERED DURING L-  
DOPA THERAPY IN 100 CASES OF PARKINSONISM. 106483 13-15  
A NEUROPSYCHOPHARMACOLOGICAL COMPARISON OF D-  
AMPHETAMINE, L-DOPA, AND COCAINE. 107045 13-03  
PSYCHOMOTOR PERFORMANCES OF PATIENTS UNDERGOING L-DOPA  
THERAPY. 107465 13-13  
L-DOPA AND BEHAVIOR. 107548 13-13  
VERBAL COMMUNICATION WITH L-DOPA TREATMENT. 107994 13-14  
REDUCTION OF CATECHOL-O-METHYLTRANSFERASE ACTIVITY BY  
CHRONIC L-DOPA THERAPY. 107995 13-15  
CHLORPROMAZINE STIMULATION AND L-DOPA SUPPRESSION OF  
PLASMA PROLACTIN IN MAN. 109042 13-13  
AUTORADIOGRAPHY OF SOME SUSPECTED NEUROTRANSMITTER  
SUBSTANCES: GABA GLYCINE, GLUTAMIC ACID, HISTAMINE,  
DOPAMINE, AND L-DOPA. 109417 13-03
- MENTAL COMPLICATIONS OF L-DOPA THERAPY IN PARKINSONS  
PATIENTS. 110477 13-15  
PSYCHIATRIC ASPECTS IN PARKINSONISM TREATED WITH L-DOPA. 111004 13-17  
THE THERAPEUTIC POSSIBILITIES OF L-DOPA AND AMANTADINE IN  
PARKINSONIAN PATIENTS WHO HAVE UNDERGONE BILATERAL  
THALAMOTOMY. 111608 13-14  
THE CRYSTAL STRUCTURE OF L-DOPA HYDROCHLORIDE,  
DIHYDROXYPHENYLALANINE HYDROCHLORIDE, C<sub>9</sub>H<sub>12</sub>O<sub>4</sub>NCL. 113974 13-01  
BEHAVIOURAL AND BIOCHEMICAL EFFECTS OF L-DOPA AFTER INHIBITION  
OF DOPAMINE-BETA-HYDROXYLASE IN RESERPINE PRETREATED RATS. 119552 13-03  
OBSERVATION ON THE RANGE OF EFFICACY OF L-DOPA. 123464 13-13  
SIDE-EFFECTS OF L-DOPA. 123702 13-15  
CLINICAL OBSERVATIONS ON THE COMPOSITE TREATMENT OF  
PARKINSONS SYNDROME WITH L-DOPA AND THE DECARBOXYLASE  
INHIBITOR RO-4-4602. 125996 13-11
- L-KYNURENINE**  
REGIONAL AND SUBCELLULAR CHANGES IN THE CONCENTRATION OF 5-  
HYDROXYTRYPTAMINE AND 5-HYDROXYINDOLEACETIC ACID IN THE  
RAT BRAIN CAUSED BY HYDROCORTISONE, DL-ALPHA-  
METHYLTRYPTOPHAN, L-KYNURENINE AND IMMOBILIZATION. 104538 13-03
- L-METHADYL**  
METHADONE AND L-METHADYL ACETATE: USE IN MANAGEMENT OF  
NARCOTICS ADDICTS. 091592 13-07
- L-PHENYLALANINE**  
INHIBITION OF L-PHENYLALANINE ABSORPTION BY L-DOPA IN PATIENTS  
WITH PARKINSONISM. 099851 13-13
- L-TRYPTOPHAN**  
L-TRYPTOPHAN AS AN ANTIDEPRESSANT. 077709 13-03  
STUDIES OF ALPHA-METHYL-P-TYROSINE, L-DOPA, AND L-TRYPTOPHAN  
IN DEPRESSION AND MANIA. 085448 13-09  
STUDIES IN VIVO ON THE RELATIONSHIP BETWEEN BRAIN TRYPTOPHAN,  
BRAIN 5-HT SYNTHESIS AND HYPERACTIVITY IN RATS TREATED WITH  
A MONOAMINE OXIDASE INHIBITOR AND L-TRYPTOPHAN. 087124 13-03  
L-TRYPTOPHAN AS A PHYSIOLOGICAL HYPNOTIC. 087348 13-14  
L-TRYPTOPHAN AND SLEEP. 104831 13-14  
INHIBITORY EFFECT OF CHLORPROMAZINE ON THE SYNDROME OF  
HYPERACTIVITY PRODUCED BY L-TRYPTOPHAN OR 5-METHOXY-N,N-  
DIMETHYLTRYPTAMINE TREATED WITH A MONOAMINE OXIDASE  
INHIBITOR. 106795 13-03
- L-3H-NOREPINEPHRINE**  
DEVELOPMENT OF THE UPTAKE AND STORAGE OF L-3H-NOREPINEPHRINE  
IN THE RAT BRAIN. 101846 13-03
- LABELLED**  
FLUORESCENT LABELLED CANNABINOIDS. 105117 13-16
- LABELLED**  
EFFECT OF THE MONOAMINE OXIDASE INHIBITOR PARGYLINE ON THE  
UPTAKE OF LABELLED NORADRENALINE BY THE CATS SPLEEN. 120413 13-03  
IN VIVO INCORPORATION OF LABELLED CHOLINE AND ACETYLCHOLINE IN  
THE VESICLES OF BRAIN NERVE ENDINGS. 123283 13-03
- LABORATORY**  
LABORATORY PREDICTIONS OF INFANTILE AUTISM BASED ON 5-  
HYDROXYTRYPTAMINE EFFLUX FROM BLOOD PLATELETS AND THEIR  
CORRELATION WITH THE RIMLAND E-2 SCORE. 082634 13-13  
BEHAVIOR AND HOW IT IS AFFECTED BY DRUGS IS BEING INVESTIGATED  
BY THE NORTH-CAROLINA DEPARTMENT OF MENTAL HEALTH BY  
USING SPIDERS AS LABORATORY ANIMALS. 086126 13-04  
NEUROPSYCHOPATHOLOGY RESEARCH GROUP: LABORATORY OF  
COMPARATIVE NEUROPSYCHOPATHOLOGY. 092317 13-04  
BIOCHEMICAL LABORATORY OF CATECHOLAMINES. 092324 13-13  
LONG-TERM ADMINISTRATION OF DOXEPIN (SINEQUAN): CLINICAL AND  
LABORATORY SURVEY OF 40 PATIENTS. 102593 13-09

# Subject Index

- EFFECTS OF NICOTINE, NICOTINE MONOMETHIODIDE, LOBELINE, CHLORDIAZEPOXIDE, MEPROBAMATE AND CAFFEINE ON A DISCRIMINATION TASK IN LABORATORY RATS. 104433 13-04
- INTERACTION EFFECTS OF ETHANOL AND PYRAZOLE IN LABORATORY RODENTS. 104536 13-03
- LACTATE**
- THE EFFECT OF SOME BETA-ADRENERGIC BLOCKING AND OTHER DRUGS ON BRAIN LACTATE LEVELS FOLLOWING ELECTROSHOCK. 100218 13-03
- ANXIETY AND THE EFFECTS OF SODIUM LACTATE ASSESSED CLINICALLY AND PHYSIOLOGICALLY. 100780 13-10
- LACTATE INDUCED ANXIETY: THERAPEUTIC APPLICATION. 105890 13-11
- LACTATION**
- DELUSION OF PREGNANCY IN A GIRL WITH DRUG-INDUCED LACTATION. 085705 13-15
- LACTIC**
- DIFFERENT EFFECT OF CHLORPROMAZINE ON THE ACTIVITY OF CRYSTALLINE LACTIC DEHYDROGENASE ISOENZYMES. 108717 13-03
- LAMBS**
- ACCEPTANCE OF ORGAN LAMBS BY TRANQUILIZED EWES (OVIS-ARIES). 100048 13-04
- LATERAL**
- NOREPINEPHRINE, REVERSAL OF ANOREXIA IN RATS WITH LATERAL HYPOTHALAMIC DAMAGE. 077680 13-04
- DECREASED SEPTAL FOREBRAIN AND LATERAL HYPOTHALAMIC REWARD AFTER ALPHA-METHYL-P-TYROSINE. 088681 13-04
- AMYOTROPHIC LATERAL SCLEROSIS, METABOLISM OF CENTRAL MONOAMINES AND TREATMENT WITH L-DOPA (UNPUBLISHED PAPER). 093081 13-13
- LAYER**
- A NOVEL THIN LAYER CHROMATOGRAPHY SYSTEM FOR LYSERGIDE (LSD). 087118 13-06
- A SEARCH FOR UNCORRELATED THIN LAYER CHROMATOGRAPHIC SYSTEMS FOR THE IDENTIFICATION OF BASIC DRUGS. 115897 13-06
- LD50**
- EFFECTS OF SINGLE 1/2 LD50 DOSES OF GB UPON DELAYED RESPONSE AND CONDITIONED AVOIDANCE RESPONSE TESTS. 094956 13-03
- LEAF**
- THE TETRAHYDROCANNABINOL CONTENT OF CANNABIS LEAF. 087117 13-01
- LEARNED**
- ADRENERGIC CHOLINERGIC INVOLVEMENT IN MODULATION OF LEARNED BEHAVIOR. 086423 13-04
- LEARNED ESCAPE BEHAVIOR INDUCED BY BRAIN ELECTRICAL STIMULATION AND VARIOUS NEUROACTIVE AGENTS. 104786 13-04
- EFFECTS OF SOME ANTICHOLINERGIC DRUGS ON WATER MAZE LEARNED BEHAVIOUR IN MICE. 104794 13-04
- LEARNING**
- PREDICTING THE RESPONSE OF CHILDREN WITH LEARNING DISABILITIES AND BEHAVIOR PROBLEMS TO DEXTROAMPHETAMINE SULFATE. 077911 13-11
- EFFECTS OF LEARNING, AMPHETAMINE AND NICOTINE ON THE LEVEL AND SYNTHESIS OF BRAIN NORADRENALINE IN RATS. 078012 13-03
- PILLS FOR LEARNING: DISPUTE FAILS TO HALT USE OF DRUGS TO CALM HYPERACTIVE CHILDREN. 078100 13-17
- PROACTIVE AND RETROACTIVE EFFECTS OF DIETHYL ETHER ON SPATIAL DISCRIMINATION LEARNING IN INBRED MOUSE STRAINS DBA/2J AND C57BL/6J. 079532 13-14
- EFFECTS OF MAGNESIUM PEMOLINE IN DIMETHYLSULFOXIDE ON REVERSAL LEARNING, MOTOR ACTIVITY, AND WATER INTAKE. 079611 13-04
- STIMULUS SIGNIFICANCE AND CHLORPROMAZINE INDUCED IMPAIRMENT OF AVOIDANCE LEARNING IN MICE. 082759 13-04
- EFFECT OF INTRAVENTRICULAR INJECTIONS OF BRAIN ISOANTIBODIES ON LEARNING. 085236 13-04
- AMPHETAMINE BARBITURATE MIXTURES: LEARNING AND RETENTION IN RATS. 086771 13-04

# Psychopharmacology Abstracts

- STIMULUS SIGNIFICANCE AND CHLORPROMAZINE EFFECTS ON THE EXPRESSION OF AVOIDANCE LEARNING IN MICE. 086900 13-04
- THE EFFECTIVENESS OF METHYLPHENIDATE HYDROCHLORIDE (RITALIN) ON LEARNING AND BEHAVIOR IN PUBLIC SCHOOL EDUCABLE MENTALLY RETARDED CHILDREN. 087272 13-14
- INTERACTIONS OF SCOPOLAMINE AND PHYSOSTIGMINE WITH ECS AND ONE TRIAL LEARNING. 088582 13-04
- DEFICIT IN ACTIVE AVOIDANCE LEARNING IN RATS FOLLOWING PENICILLIN INJECTION INTO HIPPOCAMPUS. 095382 13-04
- LEARNING DISORDERS, HYPERKINESIS, AND THE USE OF DRUGS IN CHILDREN. 095459 13-14
- COMPARATIVE LEARNING IMPAIRMENT AND AMNESIA BY SCOPOLAMINE PHENCYCLIDINE, AND KETAMINE. 101352 13-04
- RAPID LEARNING OF PASSIVE AVOIDANCE BY WEANLING RATS: CONDITIONED TASTE AVERSION. 101354 13-04
- EFFECTS OF DIAZEPAM ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS. 104138 13-04
- EFFECTS OF ALPHA-METHYLTYROSINE AND ADRENERGIC BLOCKING AGENTS ON THE FACILITATING ACTION OF AMPHETAMINE AND NICOTINE ON LEARNING IN RATS. 104373 13-04
- THE EFFECT OF STRYCHNINE ADMINISTRATION DURING DEVELOPMENT ON ADULT MAZE LEARNING IN THE RAT II. DRUG ADMINISTRATION FROM DAY 51 TO 70. 104377 13-04
- FACILITATION OR IMPAIRMENT OF LEARNING BY D-AMPHETAMINE AS A FUNCTION OF STIMULI. 104795 13-04
- EVIDENCE FOR STATE DEPENDENT LEARNING WITH MESCALINE IN A PASSIVE AVOIDANCE TASK. 105079 13-04
- A COMPARISON OF STATE DEPENDENT LEARNING INDUCED BY ELECTROCONVULSIVE SHOCK AND PENTOBARBITAL. 105362 13-04
- AMPHETAMINES IN HYPERKINESIA: BETTER LEARNING THROUGH CHEMISTRY. 105485 13-14
- THE EFFECT OF PHYSOSTIGMINE ON THE PERCEPTION AND CONSOLIDATION PHASE OF MEMORY AND LEARNING IN ALCOHOLICS. 105917 13-14
- THE EFFECTS OF TWO TETRAHYDROCANNABINOLS, (DELTA9-THC AND DELTA8-THC) ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS. 106393 13-04
- LEARNING IMPAIRMENT AFTER THREE CLASSES OF AGENTS WHICH MODIFY CHOLINERGIC FUNCTION. 106523 13-04
- TWENTY-FOUR-HOUR PROACTIVE FACILITATION OF AVOIDANCE AND DISCRIMINATION LEARNING IN RATS BY D-AMPHETAMINE. 106786 13-04
- FACILITATORY EFFECTS OF AMPHETAMINE ON LEARNING AND RECALL OF AN AVOIDANCE RESPONSE IN RATS. 107943 13-04
- DRUG EFFECTS AND LEARNING AND MEMORY PROCESSES. 108520 13-13
- ANIMAL DISSOCIATED LEARNING AS AFFECTED BY PENTOBARBITAL ADMINISTRATION. 109736 13-04
- DIFFERENTIAL EFFECT OF ATROPINE AND HYOSCINE ON HUMAN LEARNING CAPACITY. 120416 13-14
- EFFECTS OF STRYCHNINE DURING DIFFERENT PERIODS OF DEVELOPMENT ON MAZE LEARNING IN ADULT RATS. 120961 13-03
- FACILITATING EFFECTS OF SOME CHLORPROMAZINE D-AMPHETAMINE MIXTURES ON AVOIDANCE LEARNING. 124107 13-04
- A METHOD FOR STUDYING THE INFLUENCES OF DRUGS ON LEARNING FOR FOOD REWARDS IN RATS. 125249 13-06
- EFFECTS OF DRUG STATE CHANGES UPON BLACK WHITE DISCRIMINATION LEARNING IN RATS. 125253 13-04
- SEPARATION OF THE EFFECTS OF MAGNESIUM PEMOLINE ON AVOIDANCE LEARNING AND MEMORY FROM ITS CENTRAL NERVOUS SYSTEM STIMULANT PROPERTIES BY CHLORDIAZEPOXIDE. 125410 13-04
- LEARNING STRATEGY AND ITS TRANSFER UNDER THE INFLUENCE OF PHARMACOLOGICAL STRESS. 125921 13-14

- LEECH**  
EFFECT OF PENTYLENETETRAZOL ON THE LEECH RETZIUS CELL. 099108 13-03
- LEFT**  
EFFECTS OF CHLORPROMAZINE AND PROPRANOLOL ON LEFT VENTRICULAR SYSTOLIC PRESSURE, ECG, AND POTASSIUM ION EFFLUX IN THE ISOLATED PERFUSED RAT HEART. 103311 13-03
- LEGHORN**  
EFFECTS OF METHAMPHETAMINE HYDROCHLORIDE ON IMPRINTING IN WHITE LEGHORN CHICKS. 079760 13-14
- LEGITIMATE**  
PHYSICIAN CHARACTERISTICS AND ATTITUDES TOWARD LEGITIMATE USE OF PSYCHOTHERAPEUTIC DRUGS. 093860 13-17
- LENGTH**  
EFFECT OF CHLORPROMAZINE ON CONDITIONED AVOIDANCE AS A FUNCTION OF CS-US INTERVAL LENGTH. 104579 13-04
- LENS**  
LONG-TERM EVOLUTION OF THE SIDE-EFFECT LENS OPACITIES INDUCED BY CHLORPROMAZINE PROLONGED THERAPY. 089189 13-15
- LESION**  
EFFECTS OF APOMORPHINE AND AMPHETAMINE IN RATS WITH A PERMANENT CATALEPSY INDUCED BY DIENCEPHALIC LESION. PHARMACOLGY. 105118 13-03  
EFFECTS OF NIGRAL LESION AND CHLORPROMAZINE TREATMENT ON TYROSINE HYDROXYLASE ACTIVITY IN CORPUS-STRIATUM OF THE RAT. 123281 13-03
- LESIONS**  
ENHANCED AMPHETAMINE RESPONSES AFTER FRONTAL CORTEX LESIONS IN THE RAT. 073309 13-04  
ALCOHOL INGESTION IN RATS FOLLOWING MEDIAN EMINENCE LESIONS. 079428 13-04  
EFFECTS OF SEPTAL AREA AND CINGULATE CORTEX LESIONS ON OPIATE ADDICTION BEHAVIOR IN RATS. 085333 13-04  
LESIONS IN THE MEDIAL FOREBRAIN BUNDLE: RELATIONSHIP BETWEEN PAIN SENSITIVITY AND TELECEPHALIC CONTENT OF SEROTONIN. 086171 13-03  
CHOLINERGIC AND NEUROLEPTIC INDUCED CATALEPSY: MODIFICATION BY LESIONS IN THE CAUDATE PUTAMEN. 086899 13-03  
BULLOUS LESIONS IN NITRAZEPAM OVERDOSAGE. 087150 13-15  
EEG CHANGES AFTER PSILOCYBIN IN ORGANIC BRAIN LESIONS. 106000 13-13  
JOINT EFFECTS OF MEDIAL SEPTAL LESIONS AND AMYLOBARBITONE INJECTIONS ON RESISTANCE TO EXTINCTION IN THE RAT. 106392 13-04  
INTRACEREBRAL LESIONS CAUSING STEREOTYPED BEHAVIOUR IN RATS. 117681 13-03  
CHOLINERGIC AND NEUROLEPTIC INDUCED CATALEPSY: MODIFICATION BY LESIONS IN THE GLOBUS-PALLIDUS AND SUBSTANTIA-NIGRA. 122542 13-03
- LEUKOCYTE**  
CYTOGENETIC EFFECTS OF ETHANOL IN HUMAN LEUKOCYTE CULTURES. 086699 13-13
- LEUKOCYTOSIS**  
LITHIUM AND LEUKOCYTOSIS. 105084 13-15
- LEUKOPENIA**  
AGRANULOCYTOSIS, LEUKOPENIA, AND PSYCHOTROPIC DRUGS. 086417 13-13
- LEVALLORPHAN**  
THE BEHAVIOURAL EFFECTS OF LEVALLORPHAN, CYPRENORPHINE (M-285) AND AMPHETAMINE ON REPEATED Y-MAZE PERFORMANCE IN RATS. 102190 13-04  
THE EFFECTS OF NALOXONE, CHLORPROMAZINE, AND HALOPERIDOL PRETREATMENT ON LEVALLORPHAN INDUCED DISRUPTION OF RATS OPERANT BEHAVIOR. 111145 13-04
- LEVEL**  
EFFECTS OF LEARNING, AMPHETAMINE AND NICOTINE ON THE LEVEL AND SYNTHESIS OF BRAIN NORADRENALINE IN RATS. 078012 13-03  
LOW LEVEL CARBON MONOXIDE EXPOSURE AND HUMAN PSYCHOMOTOR PERFORMANCE. 078163 13-14  
FRACTIONATION OF GOLDFISH BRAIN AMINOACYL TRANSFER RNA AT THE MICROGRAM LEVEL. 087125 13-06
- THE EFFECT OF 5-HYDROXYTRYPTOPHAN AND RESERPINE ADMINISTRATION ON THE LEVEL OF SODIUM, POTASSIUM, CALCIUM, MAGNESIUM AND CHLORIDE IN FIVE DISCRETE AREAS OF THE RABBIT BRAIN.** 088665 13-03
- DIFFERENTIAL ACTIVITY OF SOME PSYCHOTROPIC DRUGS AS A FUNCTION OF EMOTIONAL LEVEL IN ANIMALS.** 103932 13-04
- RELATIONSHIP BETWEEN PLASMA LEVEL AND THERAPEUTIC EFFECT OF NORTRIPTYLINE.** 105536 13-13
- EFFECT OF LITHIUM ON SEROTONIN LEVEL IN THE BRAIN OF WHITE MICE.** 111294 13-03
- LEVELS**  
PRIMARY LEVELS OF UNDERREPORTING PSYCHOTROPIC DRUG USE. 078803 13-17  
INFLUENCE OF SEX OF HOSPITALIZED SCHIZOPHRENICS ON THERAPEUTIC DOSAGE LEVELS OF NEUROLEPTICS. 079314 13-17  
PLASMA LEVELS OF PSYCHOTROPIC DRUGS. 086530 13-16  
DRUG PLASMA LEVELS AND CLINICAL EFFECT. 086532 13-16  
EFFECTS OF EXCESS PHENYLALANINE ON IN VITRO AND IN VIVO RNA AND PROTEIN SYNTHESIS AND POLYRIBOSOME LEVELS IN BRAINS OF MICE. 086806 13-03  
DESIPRAMINE (DMI): EFFECT ON THE LEVELS OF ACETYLCHOLINE (ACH) IN WHOLE BRAIN AND IN STRIATUM OF RATS. 086811 13-03  
BRAIN LEVELS OF IMIPRAMINE AND DESIPRAMINE AFTER COMBINED TREATMENT WITH THESE DRUGS IN RATS. 086812 13-03  
EFFECTS OF MORPHINE ON CHOLINE ACETYLTRANSFERASE LEVELS IN THE CAUDATE NUCLEUS OF THE RAT. 089050 13-03  
BLOOD LEVELS OF DIAZEPAM (VALIUM) AND N-DESMETHYLDIAZEPAM IN THE EPILEPTIC CHILD. A PRELIMINARY REPORT. 093821 13-13  
POST-MORTEM CHANGES IN TISSUE LEVELS OF SODIUM SECOBARBITAL. 098634 13-03  
LYSERGIC ACID DIETHYLAMIDE TARTRATE (LSD-25) DOSAGE LEVELS, GROUP DIFFERENCES, AND SOCIAL INTERACTION. 098888 13-12  
PLASMA AND BRAIN LITHIUM LEVELS AFTER LITHIUM CARBONATE AND LITHIUM CHLORIDE ADMINISTRATION BY DIFFERENT ROUTES IN RATS. 099852 13-03  
NOREPINEPHRINE STIMULATED INCREASE OF CYCLIC AMP LEVELS IN DEVELOPING MOUSE BRAIN CELL CULTURES. 100103 13-03  
THE EFFECT OF SOME BETA-ADRENERGIC BLOCKING AND OTHER DRUGS ON BRAIN LACTATE LEVELS FOLLOWING ELECTROSHOCK. 100218 13-03  
EFFECT OF THIAZOL-4-YLMETHOXYAMINE, A NEW INHIBITOR OF HISTAMINE BIOSYNTHESIS ON BRAIN HISTAMINE, MONOAMINE LEVELS AND BEHAVIOR. 101541 13-03  
ETHYL-ALCOHOL: BLOOD LEVELS AND PERFORMANCE DECREMENTS AFTER ORAL ADMINISTRATION TO MAN. 104378 13-14  
THE ACUTE EFFECTS OF ESTROGEN AND PROGESTERONE ON THE MONOAMINE LEVELS OF THE BRAIN OF OVARECTOMIZED RATS. 104790 13-03  
BRAIN NOREPINEPHRINE AND SEROTONIN LEVELS FOLLOWING REM SLEEP DEPRIVATION IN THE RAT. 106492 13-03  
ANTICONVULSANT ACTIVITY AND BRAIN LEVELS OF DIAZEPAM AND ITS METABOLITES IN MICE. 107158 13-03  
CARBAMAZEPINE PLASMA AND TISSUE LEVELS IN THE RAT. 108395 13-03  
SERUM FOLIC ACID AND PHENYTOIN LEVELS IN PERMANENTLY HOSPITALIZED EPILEPTIC PATIENTS RECEIVING ANTICONVULSANT DRUG THERAPY. 108727 13-15  
DETERMINATION OF THERAPEUTIC BLOOD LEVELS OF METHAMPHETAMINE AND PENTOBARBITAL BY GC. 111999 13-16  
CLINICAL AND QUANTITATIVE EEG CHANGES AT DIFFERENT DOSAGE LEVELS OF FLUPHENAZINE TREATMENT. 115401 13-08  
EFFECT OF RESERPINE ON PLASMA LH LEVELS IN OVARECTOMIZED AND CYCLING PROESTRUS RATS. 125330 13-03
- LEVODOPA**  
MENTAL EFFECTS OF HIGH-DOSAGE LEVODOPA. 071597 13-11

## Subject Index

- ADVERSE REACTIONS DURING TREATMENT OF PARKINSONS DISEASE WITH LEVODOPA.** 095426 13-15
- GLUCOSE, INSULIN, AND FREE FATTY ACID METABOLISM IN PARKINSONS DISEASE TREATED WITH LEVODOPA.** 096471 13-13
- MANIC RESPONSE TO LEVODOPA THERAPY: REPORT OF A CASE.** 099922 13-15
- MANIC BEHAVIOR AND LEVODOPA.** 102750 13-15
- MANIC BEHAVIOR AND LEVODOPA.** 103187 13-15
- MANIC BEHAVIOR AND LEVODOPA.** 103188 13-15
- OBSERVATIONS ON THE EFFECT OF LEVODOPA ON TARDIVE LINGUAL-FACIAL-BUCCAL DYSKINESIA.** 103204 13-15
- LEVODOPA NICOTINIC ACID INTERACTION IN PSYCHIATRIC PATIENTS.** 107286 13-08
- PSYCHIATRIC SIDE-EFFECTS OF LEVODOPA IN MAN.** 108007 13-15
- INCREASE IN FINE MOTOR CONTROL IN PARKINSON PATIENTS FOLLOWING LEVODOPA.** 108473 13-11
- LEVODOPA IN PARKINSONISM.** 110844 13-17
- LEVODOPA. A REVIEW OF ITS PHARMACOLOGICAL PROPERTIES AND THERAPEUTIC USES WITH PARTICULAR REFERENCES TO PARKINSONISM.** 110845 13-11
- INHIBITION OF DRUG METABOLISM BY LEVODOPA IN COMBINATION WITH A DOPA-DECARBOXYLASE INHIBITOR.** 111618 13-13
- LEVOMEPRIMAZINE**
- EFFECT OF LEVOMEPRIMAZINE ON HIGHER NERVOUS ACTIVITY IN SCHIZOPHRENIA.** 086571 13-07
- RESULTS OF A DOUBLE-BLIND EXPERIMENT WITH HF-1954 (8-CHLORO-11-(4-METHYL-1-PIPERAZINYL) 5H DIBENZODIAZEPINE) COMPARED WITH LEVOMEPRIMAZINE.** 099032 13-08
- A STUDY OF THE LEVOMEPRIMAZINE THIOPROPERAZINE ANTAGONISM ON THE EXTRAPYRAMIDAL SYSTEM.** 105674 13-08
- LIABILITY**
- A SIMPLE QUANTITATIVE METHOD FOR THE EVALUATION OF PHYSICAL DEPENDENCE LIABILITY OF MORPHINE IN MICE.** 102885 13-04
- LIBIDO**
- ORAL CONTRACEPTIVES, DEPRESSION, AND LIBIDO.** 100131 13-15
- LIBRIUM**
- IMPLEMENTATION OF PSYCHOTHERAPY BY LIBRIUM IN A PIONEERING RURAL INDUSTRIAL PSYCHIATRIC PRACTICE.** 096019 13-10
- TREATMENT OF STATUS-EPILEPTICUS WITH INTRAVENOUS CHLORDIAZEPOXIDE (LIBRIUM).** 125574 13-14
- LIDANIL**
- THE EFFICACY OF MESORIDAZINE (LIDANIL) IN PSYCHONEUROSES AND SOMATIC ILLNESSES.** 089302 13-11
- LIDANIL - A NEW TRANQUILIZING AGENT IN THE CLINIC OF INTERNAL DISEASES.** 110474 13-07
- LIFE**
- MEDICATION, ANXIETY REDUCTION AND PATIENT REPORT OF SIGNIFICANT LIFE SITUATION EVENTS.** 092456 13-10
- LIFE HISTORY AND SYMPTOMS IN SCHIZOPHRENIA.** 095221 13-08
- THE EFFECT OF PYRITHIOXINE (ENCEPHALOL) ON BEHAVIOUR OF RATS, MALNOURISHED IN EARLY LIFE.** 105999 13-14
- LIGATION**
- CATECHOL-O-METHYLTRANSFERASE AND MONOAMINE OXIDASE ACTIVITIES IN RAT SUBMAXILLARY GLAND: EFFECTS OF LIGATION, SYMPATHECTOMY AND SOME DRUGS.** 099645 13-03
- LIGHT**
- SCHOOL PHOBIA: DIAGNOSTIC CONSIDERATIONS IN THE LIGHT OF IMIPRAMINE EFFECTS.** 093262 13-14
- THE EFFECTS OF ATROPINE ON HABITUATION IN A LIGHT REINFORCEMENT SITUATION.** 104576 13-04
- EFFECTS OF Mescaline AND NEMBUTAL ON CORTICAL AND RETINAL LIGHT EVOKED RESPONSES IN THE CAT. (PH.D.DISSERTATION).** 109622 13-03

## Psychopharmacology Abstracts

- TREATMENT OF HYPERBILIRUBINEMIA IN PREMATURE AND NEWBORN INFANTS WITH PHENOBARBITAL AND LIGHT THERAPY.** 125867 13-13
- LIMBIC**
- METHAMPHETAMINE EFFECTS UPON AVOIDANCE BEHAVIOR DURING LIMBIC SEIZURES IN THE CAT.** 104797 13-04
- THE COMPARISON OF THE EFFECTS OF ATROPINE AND BENACTYZINE ON SOME STRUCTURES OF LIMBIC SYSTEM OF THE RATS.** 106092 13-03
- LINGUAL-FACIAL-BUCCAL**
- OBSERVATIONS ON THE EFFECT OF LEVODOPA ON TARDIVE LINGUAL-FACIAL-BUCCAL DYSKINESIA.** 103204 13-15
- LINK**
- LSA LINK WITH TESTICULAR CANCER?** 101653 13-15
- LINKED**
- MONOAMINES AND OVARIAN HORMONE LINKED SEXUAL AND EMOTIONAL CHANGES: A REVIEW.** 110462 13-17
- LINKS**
- STRUCTURE OF THE NEURON AND INTERNEURON LINKS IN THE BRAIN OF RATS UNDER THE EFFECT OF CAFFEINE AND PHENAMINE.** 111137 13-03
- LIPIDS**
- THE INFLUENCE OF 1,5 DICAFFEOLYLQUINIC ACID ON SERUM LIPIDS IN THE EXPERIMENTALLY ALCOHOLISED RAT.** 100334 13-03
- FATTY ACIDS OF LIVER MITOCHONDRIAL AND MICROSOMAL LIPIDS IN THE RAT EXPOSED TO PHENOTHIAZINE DERIVATIVES.** 102805 13-03
- LIPOLYSIS**
- CHLORPROMAZINE INDUCED HISTAMINE RELEASE AND LIPOLYSIS IN CANINE ADIPOSE TISSUE IN SITU.** 099647 13-03
- LITHIUM**
- STUDIES WITH LITHIUM IN EUTHYROTIC, HYPERTHYROTIC AND HYPOTHYROTIC RATS.** 077428 13-03
- VALUE OF PLASMA LITHIUM MONITORING.** 077708 13-13
- PROPHYLACTIC LITHIUM THERAPY: SOME CLINICAL APPLICATIONS.** 077867 13-09
- LITHIUM TOXICITY IN A NEWBORN.** 077909 13-15
- LITHIUM.** 077924 13-17
- EFFECT OF LITHIUM ON THE RELEASE OF 14C-NOREPINEPHRINE BY NERVE STIMULATION FROM THE PERFUSED CAT SPLEEN.** 077989 13-03
- TOXICITY OF LITHIUM CARBONATE IN ELDERLY PATIENTS.** 079779 13-13
- VASOPRESSIN INHIBITION BY LITHIUM.** 082829 13-15
- VASOPRESSIN INHIBITION BY LITHIUM.** 082830 13-15
- VASOPRESSIN INHIBITION BY LITHIUM.** 082831 13-15
- LITHIUM CARBONATE TREATMENT IN THE MANIC-DEPRESSIVE AND PREDICTABILITY OF OUTCOME OF TREATMENT.** 086166 13-15
- LITHIUM IN PREGNANCY: A REVIEW WITH RECOMMENDATIONS.** 086356 13-09
- TOXIC AND UNDESIRABLE TREATMENT EFFECTS WITH LITHIUM IN PSYCHIATRY.** 086647 13-05
- LITHIUM, CHROMOSOMES, AND MITOTIC INDEX.** 086926 13-15
- LITHIUM TERATOGENICITY.** 086927 13-15
- RENAL LITHIUM ELIMINATION IN MANIC-DEPRESSIVE PATIENTS - INITIAL EXCRETION AND CLEARANCE.** 087000 13-13
- PROPHYLACTIC DISPENSATION OF LITHIUM CARBONATE IN AFFECTIVE PSYCHOSES.** 087191 13-11
- LITHIUM CARBONATE AND ISOCARBOXAZID - AN EFFECTIVE DRUG APPROACH IN SEVERE DEPRESSIONS.** 088144 13-07
- LITHIUM PROPHYLAXIS IN MANIC-DEPRESSIVE PSYCHOSES.** 088690 13-09
- EFFECT OF LITHIUM ON THYROID FUNCTION.** 088725 13-13
- EEG CHANGES WITH LITHIUM THERAPY.** 089070 13-09
- EXPERIENCE WITH LITHIUM PROPHYLAXIS OF RECURRENT EMOTIONAL DISORDERS IN A PSYCHIATRIC OUTPATIENTS CLINIC.** 089129 13-17

- RECENT ADVANCES IN THE USE OF LITHIUM. 089336 13-09
- MANIA AND THE USE OF LITHIUM: A THREE-YEAR STUDY. 089818 13-15
- LITHIUM 089866 13-13
- CHROMOSOME EXAMINATIONS IN PATIENTS ON LITHIUM CARBONATE. 090765 13-15
- PSYCHOSOCIAL PROFILES AND EFFICACY OF LITHIUM TREATMENT. 092453 13-09
- EXPERIMENTAL WITHDRAWAL OF LITHIUM IN RECOVERED MANIC-DEPRESSIVE PATIENTS: A REPORT OF FIVE CASES. 092514 13-09
- DIFFERENTIAL RESPONSE TO LITHIUM IN BIPOLAR VS UNIPOLAR DEPRESSIVE PATIENTS (UNPUBLISHED PAPER). 093454 13-09
- LITHIUM CARBONATE AND ERYTHROCYTE AGGREGATION STATES. 095155 13-09
- EFFECT OF LITHIUM ON HUMAN AGGRESSION. 095220 13-09
- EFFECT OF LITHIUM ADMINISTRATION ON RNA METABOLISM IN RAT BRAIN. 096013 13-03
- EEG, EVOKED POTENTIAL, AND CONTINGENT NEGATIVE VARIATIONS WITH LITHIUM IN MANIAC DEPRESSIVE DISEASE. 097458 13-09
- LITHIUM AS A THERAPEUTIC AGENT IN THE TREATMENT OF MANIC-DEPRESSIVE ILLNESS. 097549 13-09
- MECHANISM OF LITHIUM CARBONATE IN MANIC-DEPRESSIVE ILLNESS: A REVIEW. 098288 13-13
- VISUAL MOTOR PERFORMANCE DURING LITHIUM TREATMENT: A PRELIMINARY REPORT. 098612 13-14
- THE ESTIMATION OF LITHIUM IN SERUM. 099315 13-16
- LITHIUM. 099748 13-15
- PLASMA AND BRAIN LITHIUM LEVELS AFTER LITHIUM CARBONATE AND LITHIUM CHLORIDE ADMINISTRATION BY DIFFERENT ROUTES IN RATS. 099852 13-03
- RENAL FUNCTIONAL DAMAGE DURING THE COURSE OF LITHIUM THERAPY: A CASE REPORT WITH RENAL BIOPSY FINDINGS. 100206 13-15
- LITHIUM FOR MANIC-DEPRESSIVE DISORDERS: CHALLENGE TO ELECTROSHOCK THERAPY? 100236 13-09
- A PHARMACOKINETIC ANALYSIS OF LITHIUM CARBONATE ABSORPTION FROM SEVERAL FORMULATIONS IN MAN. 100258 13-07
- ELECTORADIOGRAPHIC T-WAVE CHANGES DURING LITHIUM CARBONATE TREATMENT. 100271 13-13
- THE INFLUENCE OF PROPHYLACTIC LITHIUM TREATMENT ON THE MARITAL ADJUSTMENT OF MANIC-DEPRESSIVES AND THEIR SPOUSES. 100314 13-09
- EFFECT OF LITHIUM CITRATE ON ADRENOCORTICAL ACTIVITY IN MANIC-DEPRESSIVE ILLNESS. 100317 13-09
- LITHIUM SALTS AS SEDATIVES: AN INVESTIGATION INTO THE POSSIBLE EFFECT OF LITHIUM ON ACUTE ANXIETY. 100811 13-10
- CLINICAL HYPOTHYROIDISM OCCURRING DURING LITHIUM TREATMENT: TWO CASE HISTORIES AND A REVIEW OF THYROID FUNCTION IN 19 PATIENTS. 101061 13-15
- SEVERE LITHIUM INTOXICATION: MANAGEMENT WITHOUT DIALYSIS AND REPORT OF A POSSIBLE TERATOGENIC EFFECT OF LITHIUM. 101174 13-15
- PROPHYLACTIC ADMINISTRATION OF LITHIUM CARBONATE IN AFFECTIVE PSYCHOSES. 101311 13-09
- SIDE-EFFECTS OF A SUSTAINED RELEASE LITHIUM PREPARATION. 101409 13-15
- EFFECT OF LITHIUM CARBONATE, PLACEBO, AND THIORIDAZINE ON HYPERACTIVE CHILDREN. 101684 13-11
- COMPARATIVE EFFECTS OF LITHIUM AND CHLORPROMAZINE IN THE TREATMENT OF ACUTE MANIC STATES. 101897 13-09
- PROPHYLACTIC EFFECTS OF LITHIUM SALTS IN PERIODIC AFFECTIVE PSYCHOSES. 101967 13-09
- SOME RISKS OF LITHIUM THERAPY. 102039 13-15
- PATIENT REJECTION OF LITHIUM CARBONATE PROPHYLAXIS. 102105 13-09
- LITHIUM AND RUBIDIUM: A ROLE IN THE AFFECTIVE DISORDERS. 102592 13-09
- PROPHYLACTIC EFFECT OF LITHIUM SALTS IN PERIODIC AFFECTIVE PSYCHOSES. 102602 13-09
- LITHIUM CARBONATE INDUCED MYXEDEMA. 102880 13-15
- EFFECT OF CHLORPROMAZINE, DESMETHYLIMIPRAMINE AND LITHIUM ON DOPAMINE UPTAKE IN THE RAT PANCREAS. 103312 13-03
- LITHIUM PROPHYLAXIS IN MANIC-DEPRESSIVE PSYCHOSES AND IN RECURRENT ENDOGENOUS DEPRESSIONS. 103320 13-09
- SOME CURRENT THOUGHTS ON LITHIUM CARBONATE IN MANIC-DEPRESSIVE ILLNESS BASED ON A DOUBLE-BLIND COMPARISON WITH CHLORPROMAZINE. 103627 13-09
- LITHIUM CARBONATE - IS IT SUCCESSFUL? 103629 13-14
- A COMPARISON OF SIDE-EFFECTS BETWEEN LITHIUM ACETATE AND LITHIUM SULFATE. 103794 13-15
- OBSERVATIONS ON CHANGES IN THE CLINICAL PHENOMENOLOGY OF MANIC PHASES UNDER EXTENDED LITHIUM THERAPY. 103797 13-14
- THE ELECTROENCEPHALOGRAPHIC RECORDING OF SHORT-TERM AND LONG-TERM LITHIUM EFFECT. 104441 13-13
- LITHIUM AND LEUKOCYTOSIS. 105084 13-15
- EFFECTS OF LITHIUM ON BRAIN ADENYL CYCLASE ACTIVITY. 105707 13-03
- RESULTS OF LITHIUM TREATMENT OF MANIC-DEPRESSIVE PSYCHOSES IN COMPARISON WITH THE CONTROL GROUP. 105830 13-09
- MODIFICATION OF DEPRESSIVE EPISODES DURING PROPHYLACTIC ADMINISTRATION OF LITHIUM SALTS. 105831 13-09
- TO THE ANTIDEPRESSIVE PROPERTIES OF LITHIUM AND ITS PLACE IN THE GROUP OF ANTIDEPRESSIVE DRUGS. 105832 13-09
- A CONTROLLED STUDY OF LITHIUM VS. CHLORPROMAZINE IN ACUTE SCHIZOPHRENICS. 105885 13-08
- CLINICAL EXPERIENCE WITH PROPHYLACTIC LITHIUM THERAPY OF MANIC-DEPRESSIVE PSYCHOSES. 105928 13-09
- LITHIUM CARBONATE: A SURVEY OF THE HISTORY AND CURRENT STATUS OF LITHIUM IN TREATING MOOD DISORDERS. (UNPUBLISHED PAPER). 106053 13-09
- A COMPARISON OF LITHIUM CARBONATE AND CHLORPROMAZINE IN THE TREATMENT OF EXCITED SCHIZO-AFFECTIVES. (UNPUBLISHED PAPER). 106066 13-08
- EFFECTS OF INTRAPERITONEAL INJECTIONS OF LITHIUM CHLORIDE ON THE ENTRY OF RADIOACTIVE CARBON ATOMS OF GLUCOSE AND AMINO ACIDS INTO MOUSE BRAIN AND OTHER TISSUES. 106524 13-03
- A CUTANEOUS SIDE-EFFECT OF LITHIUM: REPORT OF TWO CASES. 107444 13-15
- LITHIUM CARBONATE AND EDEMA. 107653 13-15
- DISTRIBUTION IN THE ORGANISM AND THE ELIMINATION OF LITHIUM. 107726 13-03
- THE EFFECTS OF SUBACUTE ADMINISTRATION OF TRIIODOTHYRONINE (T3) ON THE ACUTE TOXICITY OF LITHIUM IN THE RAT. 107864 13-05
- PROPHYLACTIC LITHIUM IN AFFECTIVE DISORDERS. 109105 13-09
- LITHIUM AND MITOTIC INDEX. 109234 13-15
- EFFECT OF LITHIUM ON SEROTONIN LEVEL IN THE BRAIN OF WHITE MICE. 111294 13-03
- USE OF LITHIUM SALTS IN TREATMENT AND PREVENTION OF AFFECTIVE PSYCHOSES. 113750 13-09
- LITHIUM AND PSYCHIATRY: JOURNAL ARTICLES. 114911 13-09
- PROPHYLACTIC EFFECT OF LITHIUM SALT IN AFFECTIVE PSYCHOSES. 118208 13-09
- CASE OF THE CIRCULAR FORM OF CYCLOPHRENIA TREATED WITH LITHIUM CARBONATE FOR A PERIOD OF 4 YEARS. 118218 13-09
- FACILITATION OF NORADRENALINE UPTAKE BY LITHIUM. 119016 13-03

# Subject Index

# Psychopharmacology Abstracts

- INVESTIGATIONS ON THE ELECTROLYTE CONTENTS OF ANATOMICALLY DEFINED PARTS OF THE BRAIN IN NORMAL AND LITHIUM-TREATED RATS.** 123279 13-03
- LITHIUM INDUCED INHIBITION OF THE 5-HYDROXYTRYPTAMIN UPTAKE IN VITRO BY RAT THROMBOCYTES.** 123280 13-03
- DISTRIBUTION OF ELECTROLYTES WITHIN THE BRAIN OF LITHIUM-TREATED RATS.** 123289 13-03
- LITHIUM EFFECTS ON THE EEG AND SOMATOSENSORY EVOKED RESPONSE IN RELATION TO SODIUM METABOLISM.** 125569 13-13
- LITHIUM PROPHYLAXIS OF CYCLOTHYMIC PSYCHOSES.** 125991 13-09
- LITHIUMS**  
LITHIUMS SITE OF ACTION: CLUES FROM SIDE-EFFECTS. 089531 13-15
- LIVIDO**  
LIVIDO RETICULARIS DURING AMANTADINE TREATMENT. 098142 13-15
- LIVER**  
EFFECT OF DELTA1-TETRAHYDROCANNABINOL ON ATPASE ACTIVITY OF RAT LIVER MITOCHONDRIA. 077870 13-03  
METABOLISM OF CHLORPROMAZINE AND P-NITROBENZIC ACID IN THE LIVER, INTESTINE AND KIDNEY OF THE HUMAN FETUS. 088540 13-13  
EFFECTS OF ACUTE AND CHRONIC ETHANOL ADMINISTRATION ON RIBOSOMAL PROTEIN SYNTHESIS IN MOUSE BRAIN AND LIVER. 088558 13-03  
INSULIN RECEPTORS IN THE LIVER: SPECIFIC BINDING OF 125I INSULIN TO THE PLASMA MEMBRANE AND ITS RELATION TO INSULIN BIOACTIVITY (UNPUBLISHED PAPER). 092377 13-03  
UPTAKE, METABOLISM AND EXCRETION OF DESMETHYLIMIPRAMINE AND ITS METABOLITES IN THE ISOLATED PERFUSED RAT LIVER. 098616 13-03  
EFFECT OF SODIUM NITRITE ON MONOAMINE OXIDASE ACTIVITY IN RAT LIVER AND BRAIN. 100100 13-03  
METABOLISM OF PROPRANOLOL BY RAT LIVER MICROSOMES AND ITS INHIBITION BY PHENOTHIAZINE AND TRICYCLIC ANTIDEPRESSANT DRUGS. 101703 13-03  
FATTY ACIDS OF LIVER MITOCHONDRIAL AND MICROSOMAL LIPIDS IN THE RAT EXPOSED TO PHENOTHIAZINE DERIVATIVES. 102805 13-03  
METABOLISM OF DIAZEPAM AND ITS METABOLITES BY GUINEA-PIG LIVER MICROSOMES. 102806 13-03  
METABOLISM OF DELTA9-TETRAHYDROCANNABINOL BY LUNG AND LIVER HOMOGENATES OF RATS TREATED WITH METHYLCHOLANTHRENE. 104765 13-03  
EFFECT OF IN VIVO ETHANOL ADMINISTRATION ON ADENOSINETRIPHOSPHATASE ACTIVITY OF SUBCELLULAR FRACTIONS OF MOUSE BRAIN AND LIVER. 105518 13-03  
EFFECT OF PYRAZOLE IN VIVO ON ALDEHYDE METABOLISM IN RAT LIVER AND BRAIN. 105709 13-03  
N-DEMETHYLATION AND N-OXIDATION OF IMIPRAMINE BY RAT AND PIG LIVER MICROSOMES. 108290 13-03  
METABOLISM OF THE PHENOTHIAZINE DRUG PERAZINE BY LIVER AND LUNG MICROSOMES FROM VARIOUS SPECIES. 108718 13-03  
CLINICAL AND ELECTROENCEPHALOGRAPHIC ASSESSMENT OF DIAZEPAM IN LIVER DISEASE. 111963 13-15  
EFFECT OF CHLORPROMAZINE ON THE FUNCTION OF THE PERFUSED ISOLATED LIVER. 118569 13-05  
DAILY RHYTHMIC VARIATION AND LIVER DRUG METABOLISM IN RATS. 120467 13-03  
SUBCELLULAR DISTRIBUTION OF 8-14C-MESCALINE IN THE MOUSE BRAIN AND LIVER. 120471 13-03  
PARTICIPATION OF LIVER FUNCTION IN THE ACUTE TOLERANCE TO PENTOBARBITAL INDUCED AFTER SHORT-TERM INFUSION. 125326 13-03
- LOADING**  
METABOLIC ASPECTS OF AMINO ACID LOADING AND DRUG ADMINISTRATION IN ANIMAL STUDIES. AFFECTIVE ILLNESSES. 099335 13-03
- LOBE**  
THE INFLUENCE OF SELECTIVE TEMPORAL LOBE DAMAGE ON BEHAVIOR AND THE RESPONSE TO LYSERGIC ACID DIETHYLAMIDE. 073494 13-05
- LOBELINE**  
EFFECTS OF NICOTINE, NICOTINE MONOMETHIODIDE, LOBELINE, CHLORDIAZEPOXIDE, MEPROBAMATE AND CAFFEINE ON A DISCRIMINATION TASK IN LABORATORY RATS. 104433 13-04
- LOBES**  
THE EFFECTS OF CHRONIC ADMINISTRATION OF SOME CHOLINERGIC AND ADRENERGIC DRUGS ON THE ACTIVITY OF CHOLINE ACETYLTRANSFERASE IN THE OPTIC LOBES OF THE CHICK BRAIN. 100219 13-03
- LOBSTER**  
DIPHENYLHYDANTOIN (DILANTIN): STIMULATION OF POTASSIUM INFLUX IN LOBSTER AXONS. 117581 13-03
- LOCAL**  
PRODUCTION OF LOCAL ANAPHYLACTIC REACTIONS AS AN ATTEMPT TO TREAT DEPRESSIVE PSYCHOSES. 087035 13-07  
BEHAVIORAL CONTRAST: AN UNLOCALIZED EFFECT OF A LOCAL ANESTHETIC. 106688 13-04  
THE EFFECT OF LOCAL ANESTHETICS ON THE CENTRAL NERVOUS SYSTEM TOXICITY OF HYPERBARIC OXYGEN. 122540 13-03
- LOCALIZATION**  
H3-LYSERGIC ACID DIETHYLAMIDE: CELLULAR AUTORADIOGRAPHIC LOCALIZATION IN RAT BRAIN. 098956 13-03
- LOCATION**  
BINDING AND LOCATION OF RESPERINE 123266 13-03
- LOCOMOTION**  
THE BEHAVIORAL EFFECTS OF A NEW PSYCHOACTIVE DRUG (D-CARBINE) ON A PASSIVE AVOIDANCE RESPONSE AND LOCOMOTION AND ITS INTERACTION WITH AMPHETAMINE. 124104 13-02
- LOCOMOTOR**  
IMPORTANCE OF NORADRENALINE FOUND IN A FUNCTIONAL POOL IN MAINTAINING SPONTANEOUS LOCOMOTOR ACTIVITY IN RATS. 077424 13-04  
THE EFFECT OF PARA-CHLOROPHENYLALANINE ON SPONTANEOUS LOCOMOTOR ACTIVITY IN THE RAT. 082758 13-14  
THE EFFECT OF AMANTADINE ON SPONTANEOUS LOCOMOTOR ACTIVITY IN THE RAT. 120820 13-03
- LOCUS**  
LOCUS OF CENTRAL DEPRESSANT ACTION OF SOME BENZODIAZEPINE ANALOGUES. 089285 13-03  
EFFECTS OF AMPHETAMINE ON SINGLE CELL ACTIVITY IN A CATECHOLAMINE NUCLEUS, THE LOCUS COERULEUS. 111661 13-03
- LONG-ACTING**  
LONG-ACTING PHENOTHIAZINES IN SCHIZOPHRENIA. 087239 13-15  
LONG-ACTING PHENOTHIAZINES IN SCHIZOPHRENIA. 088351 13-17  
LONG-ACTING ANTIPARKINSONIAN DRUGS: I. PILOT STUDY OF BENZETIMIDE (342 CASES). 096113 13-07  
LONG-ACTING PHENOTHIAZINES IN SCHIZOPHRENIA. 099735 13-08  
URINARY EXCRETION OF PERPHENAZINE AND ITS SULFOXIDE DURING ADMINISTRATION IN ORAL AND LONG-ACTING INJECTABLE FORM. 102185 13-15  
CLINICAL AND ERGOTHERAPEUTIC EVALUATION OF FLUSPIRILENE (R-6218), A LONG-ACTING INJECTABLE NEUROLEPTIC, IN CHRONIC PSYCHOTIC PATIENTS. 102577 13-07  
LONG-ACTING PHENOTHIAZINE IN PSYCHIATRIC PRACTICE. 106813 13-08  
A QUANTITATIVE STUDY OF NEUROLEPTIC INDUCED EXTRAPYRAMIDAL SYMPTOMS AND THEIR RESPONSE TO DEXTETIMIDE, A POTENT AND LONG-ACTING ANTIPARKINSONIAN AGENT. 115396 13-13
- LONG-TERM**  
LONG-TERM TREATMENT WITH NEUROLEPTIC DRUGS AND EYE OPACITIES. 079832 13-14  
LONG-TERM EVOLUTION OF THE SIDE-EFFECT LENS OPACITIES INDUCED BY CHLORPROMAZINE PROLONGED THERAPY. 089189 13-15

- EFFECTS OF LONG-TERM RESERPINE TREATMENT ON BRAIN TYROSINE HYDROXYLASE AND BEHAVIORAL ACTIVITY. 101718 13-04
- LONG-TERM ADMINISTRATION OF DOXEPIN (SINEQUAN); CLINICAL AND LABORATORY SURVEY OF 40 PATIENTS. 102593 13-09
- THE EFFECT OF RNA PRECURSORS ON THE MAINTENANCE OF LONG-TERM MEMORY. 103946 13-04
- THE ELECTROENCEPHALOGRAPHIC RECORDING OF SHORT-TERM AND LONG-TERM LITHIUM EFFECT. 104441 13-13
- EXPERIMENTAL CHARACTERISTICS OF SOME MANIFESTATIONS COMMON TO THE WITHDRAWAL SYNDROME FOLLOWING DISCONTINUANCE OF LONG-TERM ADMINISTRATION OF DIAZEPAM AND CHLORDIAZEPOXIDE. 111134 13-04
- LONG-TERM SEIZURE AFTER STATUS-EPILEPTICUS WITH DIAZEPAM. 115899 13-13
- LONG-TERM EFFECTS OF HALOPERIDOL ON SEVERELY EMOTIONALLY DISTURBED CHILDREN. 118717 13-11
- CLINICAL STUDY OF THE EFFECT OF SUSTAINED RELEASE THIORIDAZINE IN LONG-TERM PSYCHIATRIC HOSPITAL PATIENTS. 121457 13-07
- CHANGES IN A HEXOBARBITAL ANESTHESIA THRESHOLD IN RATS INDUCED BY REPEATED LONG-TERM TREATMENT WITH BARBITAL OR ETHANOL. 125248 13-03
- LORAZEPAM**
- CENTRAL NERVOUS SYSTEM AND CARDIOVASCULAR EFFECTS OF LORAZEPAM IN MAN. 077933 13-13
- PRELIMINARY STUDIES ON THE CENTRAL EFFECTS OF LORAZEPAM, A NEW BENZODIAZEPINE. 102214 13-07
- A COMPARATIVE TRIAL OF LORAZEPAM AND DIAZEPAM. 107594 13-10
- PHARMACOLOGICAL INTERACTION OF LORAZEPAM WITH THIOPENTONE SODIUM AND SKELETAL NEUROMUSCULAR BLOCKING DRUGS. 120410 13-03
- LORDOSIS**
- LORDOSIS BEHAVIOR IN MALE RATS TREATED WITH ESTROGEN IN COMBINATION WITH TETRABENAZINE AND NIALAMIDE. 125165 13-04
- LOWERING**
- P-CHLOROAMPHETAMINE: SPECIES DIFFERENCES IN THE RATE OF DISAPPEARANCE AND THE LOWERING OF CEREBRAL SEROTONIN. 077869 13-03
- LOXAPINE**
- LOXAPINE SUCCINATE IN THE TREATMENT OF UNCONTROLLABLE DESTRUCTIVE BEHAVIOR. 117023 13-11
- LSD**
- LSD REVISITED: A TEN-YEAR FOLLOW-UP OF MEDICAL LSD USE. 072262 13-12
- A NOVEL THIN LAYER CHROMATOGRAPHY SYSTEM FOR LYSERGIDE (LSD). 087118 13-06
- LSD: TERATOGENIC ACTION IN CHICK BLASTODERMES. 089286 13-05
- LSD: ITS EFFECTS UPON 5-HYDROXYTRYPTAMINE IN EMBRYONIC DEVELOPMENT OF XENOPUS-LAEVIS. 098919 13-12
- ACUTE ADVERSE REACTIONS TO LSD IN CLINICAL AND EXPERIMENTAL USE IN THE UNITED KINGDOM. 099307 13-12
- LSD IN PREGNANCY: CHROMOSOMAL EFFECTS. 099614 13-05
- PERSISTENT INCREASE IN BRAIN SEROTONIN TURNOVER AFTER CHRONIC ADMINISTRATION OF LSD IN THE RAT. 099828 13-03
- LSD INDUCED DECREASE IN SERUM PROLACTIN IN RATS. 100220 13-03
- PROTECTION AGAINST LSD BY VARIOUS STEROIDS. 101542 13-03
- LSD LINK WITH TESTICULAR CANCER? 101653 13-15
- PROPRANOLOL FOR LSD INDUCED ANXIETY STATES. 101667 13-14
- OPTICAL ACTIVITY OF LSD DNA MIXTURES. 101769 13-03
- THE INFLUENCE OF LOW LSD DOSE ADMINISTRATION DURING SLEEP IN RATS. 104429 13-04
- CRITICAL REVIEW OF ANNE E. CALDWELL'S ORIGINS OF PSYCHOPHARMACOLOGY FROM CPZ TO LSD. 105554 13-17
- DECREASED CALCIUM UPTAKE BY RAT FUNDAL STRIPS AFTER PRETREATMENT WITH NEURAMINIDASE OR LSD IN VITRO. 105710 13-03
- MESCALINE AND LYSERGIC ACID DIETHYLAMIDE (LSD) AS DISCRIMINATIVE STIMULI. 106489 13-04
- UNEXPLAINED INHIBITORY ACTION OF D-LYSERGIC ACID DIETHYLAMIDE (LSD) ON POSTGANGLIONIC MOTOR TRANSMISSION IN THE GUINEA-PIG VAS-DEFERENS. 109198 13-03
- EFFECTS OF LSD ON TIME BASED SCHEDULES OF REINFORCEMENT. 110190 13-04
- THE EXPERIMENTAL USE OF PSYCHEDELIC (LSD) PSYCHOTHERAPY. 116810 13-11
- LSD-25**
- BEHAVIORAL AND ELECTROGRAPHIC EFFECTS OF D-LYSERGIC ACID DIETHYLAMIDE (LSD-25) ON THE PHOTSENSITIVE PAPIO-PAPIO. 086702 13-03
- THE ACTION OF LYSERGIC ACID DIETHYLAMIDE (LSD-25) ON CONDITIONING AND SEDATION. 086858 13-04
- LYSERGIC ACID DIETHYLAMIDE TARTRATE (LSD-25) DOSAGE LEVELS, GROUP DIFFERENCES, AND SOCIAL INTERACTION. 098888 13-12
- LSD-25 DOES NOT INTERCALATE IN DNA. 101768 13-03
- EFFECTS OF LSD-25 AND MESCALINE ON THE ELECTROPLAX OF THE ELECTRIC EEL. 109918 13-03
- TOXIC EFFECT OF LSD-25 ON A CULTURE OF KIDNEY CELLS FROM CERCOPTHECUS-AETHIOPS MONKEYS. 125418 13-05
- LUNG**
- METABOLISM OF DELTA9-TETRAHYDROCANNABINOL BY LUNG AND LIVER HOMOGENATES OF RATS TREATED WITH METHYLCHOLANTHRENE. 104765 13-03
- METABOLISM OF THE PHENOTHIAZINE DRUG PERAZINE BY LIVER AND LUNG MICROSOMES FROM VARIOUS SPECIES. 108718 13-03
- LUPINE**
- COMPARATIVE PSYCHOPHARMACOLOGIC INVESTIGATION OF CRYOGENINE, CERTAIN NONSTEROID ANTIINFLAMMATORY COMPOUNDS, LUPINE ALKALOIDS AND CYPROHEPTADINE. 091281 13-02
- LUPUS-ERYTHEMATOSUS**
- PROBLEMS RAISED IN THE TREATMENT OF NEUROLOGICAL AND NEUROPSYCHIATRIC MANIFESTATIONS IN SYSTEMIC LUPUS-ERYTHEMATOSUS. 089134 13-15
- LYASE**
- INDUCED FORMATION OF PHENYLALANINE AMMONIA LYASE AND PISATIN BY CHLORPROMAZINE AND OTHER PHENOTHIAZINE DERIVATIVES. 108716 13-17
- LYSERGIC**
- THE INFLUENCE OF SELECTIVE TEMPORAL LOBE DAMAGE ON BEHAVIOR AND THE RESPONSE TO LYSERGIC ACID DIETHYLAMIDE. 073494 13-05
- STRUCTURAL ANALOGS OF LYSERGIC ACID. 086796 13-01
- THE ACTION OF LYSERGIC ACID DIETHYLAMIDE (LSD-25) ON CONDITIONING AND SEDATION. 086858 13-04
- EFFECT OF MESCALINE AND LYSERGIC ACID DIETHYLAMIDE ON FLICKER DISCRIMINATION IN THE RAT. 088584 13-04
- LYSERGIC ACID DIETHYLAMIDE TARTRATE (LSD-25) DOSAGE LEVELS, GROUP DIFFERENCES, AND SOCIAL INTERACTION. 098888 13-12
- THE VIOLET PIGMENT OF LYSERGIC ACID ALKALOID PRODUCING CULTURES OF CLAVICEPS-PASPALI: FERRIC COMPLEX OF 2,3 DIHYDROXYBENZOIC ACID. 100171 13-01
- ON THE INFLUENCE OF HALOPERIDOL ON LYSERGIC ACID INTOXICATION. 102792 13-03
- USE OF LYSERGIC ACID DIETHYLAMIDE IN CHILD PSYCHIATRY. 102836 13-12
- LYSERGIC ACID DIETHYLAMIDE, AMPHETAMINE AND CHLORPROMAZINE ON WATER MAZE DISCRIMINATION IN MICE. 104812 13-04
- MESCALINE AND LYSERGIC ACID DIETHYLAMIDE (LSD) AS DISCRIMINATIVE STIMULI. 106489 13-04
- THE INFLUENCE OF LYSERGIC ACID DIETHYLAMIDE ON THE ACTIVITY OF SOLITARY NEURONS OF SOME CEREBRAL REGIONS. 107722 13-03

## Subject Index

- EFFECTS OF PSILOCYBIN, DIMETHYLTRYPTAMINE, Mescaline AND VARIOUS LYSERGIC ACID DERIVATIVES ON THE EEG AND ON PHOTICALLY INDUCED EPILEPSY (PAPIO-PAPIO). 109620 13-03
- STUDIES ON DEOXYRIBONUCLEIC ACID METABOLISM IN HUMAN CELLS TREATED WITH LYSERGIC ACID DIETHYLAMIDE. 120470 13-13
- LYSERGIDE**  
A NOVEL THIN LAYER CHROMATOGRAPHY SYSTEM FOR LYSERGIDE (LSD). 087118 13-06
- LYSOSOMES**  
CEREBRAL LYSOSOMES. VI. THE IN VIVO UPTAKE OF TRITON-WR-1339 BY THE LYSOSOMES OF THE IMMATURE CEREBRAL CORTEX AND CEREBELLUM. 088285 13-03
- M-CHOLINERGIC**  
THE ROLE OF CENTRAL M-CHOLINERGIC SYSTEMS IN THE DEVELOPMENT OF FOOD MOTOR CONDITIONED REFLEXES. 107719 13-03
- M-285**  
THE BEHAVIOURAL EFFECTS OF LEVALLORPHAN, CYPRENORPHINE (M-285) AND AMPHETAMINE ON REPEATED Y-MAZE PERFORMANCE IN RATS. 102190 13-04
- MACACA-MULATTA**  
THE DIFFERENTIAL EFFECTS OF METHAMPHETAMINE UPON VISUAL EXPLORATORY BEHAVIOR AND SPONTANEOUS MOTOR ACTIVITY IN RHESUS MONKEYS (MACACA-MULATTA). 103040 13-04
- MACROMOLECULAR**  
CHLORPROMAZINE EFFECTS ON MACROMOLECULAR SYNTHESIS IN SYNCHRONIZED TETRAHYMENA. 105014 13-03
- MAGNESIUM**  
THE EFFECTS OF MAGNESIUM PEMOLINE ON SIDMAN AVOIDANCE BEHAVIOR. 078452 13-04
- EFFECTS OF MAGNESIUM PEMOLINE IN DIMETHYLSULFOXIDE ON REVERSAL LEARNING, MOTOR ACTIVITY, AND WATER INTAKE. 079611 13-04
- SPONTANEOUS ACTIVITY AND WATER INTAKE IN THE RAT UNDER THE EFFECTS OF SCOPOLAMINE HBR AND MAGNESIUM PEMOLINE. 086186 13-04
- THE EFFECT OF 5-HYDROXYTRYPTOPHAN AND RESERPINE ADMINISTRATION ON THE LEVEL OF SODIUM, POTASSIUM, CALCIUM, MAGNESIUM AND CHLORIDE IN FIVE DISCRETE AREAS OF THE RABBIT BRAIN. 088665 13-03
- CHANGES IN CALCIUM AND MAGNESIUM METABOLISM IN DEPRESSIONS AND DELIRIUM-TREMENS. 089200 13-13
- PLASMA MAGNESIUM CONCENTRATION AND URINARY MAGNESIUM EXCRETION IN RATS TREATED CHRONICALLY WITH MORPHINE. 099801 13-03
- GAS CHROMATOGRAPHIC ANALYSIS OF CHLORPROMAZINE AND ITS METABOLITES FORMED BY HEPATIC MICROSOMES - I. INFLUENCE OF MAGNESIUM. 102695 13-03
- SEPARATION OF THE EFFECTS OF MAGNESIUM PEMOLINE ON AVOIDANCE LEARNING AND MEMORY FROM ITS CENTRAL NERVOUS SYSTEM STIMULANT PROPERTIES BY CHLORDIAZEPoxide. 125410 13-04
- MAGNITUDE**  
TIME DEPENDENT MEMORY DEFICITS PRODUCED BY PENTYLENETETRAZOL (METRAZOL) - THE EFFECT OF REINFORCEMENT MAGNITUDE. 102305 13-04
- MAGNITUDES**  
AMOBARBITAL VS SALINE EXTINCTION FOLLOWING DIFFERENT MAGNITUDES OF CONSISTENT REINFORCEMENT. 078449 13-04
- MAINTAINED**  
FACTORS AFFECTING BEHAVIOR MAINTAINED BY RESPONSE CONTINGENT INTRAVENOUS INFUSIONS OF AMPHETAMINE IN SQUIRREL MONKEYS. 089060 13-04
- MAINTAINING**  
IMPORTANCE OF NORADRENALINE FOUND IN A FUNCTIONAL POOL IN MAINTAINING SPONTANEOUS LOCOMOTOR ACTIVITY IN RATS. 077424 13-04
- MAINTENANCE**  
COMPARISON OF THIORIDAZINE TABLETS TO CHLORPROMAZINE SPANSULES IN THE MAINTENANCE CARE OF CHRONIC SCHIZOPHRENICS. 097554 13-07

## Psychopharmacology Abstracts

- A DOUBLE-BLIND CONTROLLED TRIAL OF THIOTHIXENE AND PERPHENAZINE IN CHRONIC SCHIZOPHRENICS SHOWN TO REQUIRE MAINTENANCE THERAPY. 100807 13-08
- TRIAL OF MAINTENANCE THERAPY IN SCHIZOPHRENIA. 101527 13-08
- EVALUATION OF CLINICAL EFFICACY OF PIMOZIDE AS MAINTENANCE THERAPY IN CHRONIC SCHIZOPHRENIC PATIENTS. 103326 13-07
- THE EFFECT OF RNA PRECURSORS ON THE MAINTENANCE OF LONG-TERM MEMORY. 103946 13-04
- MAINTENANCE OF NORADRENALINE IN NEURONAL CELL BODIES AND TERMINALS: EFFECT OF FREQUENCY OF STIMULATION. 105410 13-03
- MAJEPTIL**  
ON THE ANALYSIS OF SIDE (NEUROLEPTIC) MANIFESTATIONS IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS WITH MAJEPTIL. 102657 13-08
- MAJOR**  
II. MAJOR TRANQUILIZERS. 082839 13-17
- IDENTIFICATION OF 7-HYDROXYFLUPHENAZINE AS MAJOR METABOLITE OF FLUPHENAZINE-14C IN THE DOG. 086579 13-03
- ON THE ELECTRON DONATING PROPERTIES OF THE MAJOR TRANQUILIZERS. 087366 13-01
- COMPARISON OF MAJOR DRUG THERAPIES FOR ALLEVIATION OF ANXIETY AND DEPRESSION. 103912 13-14
- ACTIVITY OF MAJOR ANALGESICS ON MOTOR NOCICEPTIVE RESPONSES IN DECEREBRATE MICE. 105010 13-03
- MALE**  
COPULATORY BEHAVIOR OF MALE RATS FOLLOWING RESERPINE ADMINISTRATION. 073485 13-04
- EFFECT OF PARA-CHLOROPHENYLALANINE ON THE BEHAVIOUR OF CASTRATED MALE RATS. 087360 13-04
- CANNABINOID CONSTITUENTS OF MALE AND FEMALE CANNABIS-SATIVA. 098556 13-01
- TRIFLUOPERIDOL IN CHRONIC MALE PSYCHIATRIC PATIENTS. 098731 13-14
- REACTIONS OF MALE FIGHTERS TO MALE AND FEMALE MICE, UNTREATED OR DEODORIZED. 101738 13-04
- HOMOSEXUAL ACTIVITY IN MALE RATS AFTER P-CHLOROPHENYLALANINE: EFFECTS OF HYPOPHYSECTOMY AND TESTOSTERONE. 102096 13-04
- INCREASED AGGRESSION AND TOXICITY IN GROUPED MALE MICE TREATED WITH TRANQUILIZING BENZODIAZEPINES. 104380 13-05
- MATING BEHAVIOR IN THE MALE RAT TREATED WITH P-CHLOROPHENYLALANINE METHYL ESTER ALONE AND IN COMBINATION WITH PARGYLINE. 104431 13-04
- LORDOSIS BEHAVIOR IN MALE RATS TREATED WITH ESTROGEN IN COMBINATION WITH TETRABENAZINE AND NIALAMIDE. 125165 13-04
- MAINOURISHED**  
THE EFFECT OF PYRITHOXINE (ENCEPHALOL) ON BEHAVIOUR OF RATS, MAINOURISHED IN EARLY LIFE. 105999 13-14
- MAMMALIAN**  
EFFECTS OF SEROTONIN (5-HT) AND SOME RELATED INDOLE COMPOUNDS IN A MAMMALIAN SYMPATHETIC GANGLION. 125596 13-03
- MAN**  
DOET (2,5 DIMETHOXY-4-ETHYLAMPHETAMINE), A NEW PSYCHOTROPIC DRUG: EFFECTS OF VARYING DOSES IN MAN. 071566 13-12
- A NOTE ON THE INFLUENCE OF DIET IN WEST AFRICA ON URINARY PH AND EXCRETION OF AMPHETAMINE IN MAN. 077904 13-13
- GAS CHROMATOGRAPHY MASS SPECTROMETRY OF NORTRIPTYLINE IN BODY FLUIDS OF MAN. 077931 13-16
- CENTRAL NERVOUS SYSTEM AND CARDIOVASCULAR EFFECTS OF LORAZEPAM IN MAN. 077933 13-13
- EFFECTS OF QUINALBARBITONE (SECOPARBITAL) AND NITRAZEPAM ON THE EEG IN MAN: QUANTITATIVE INVESTIGATIONS. 082826 13-13

THE ACTION OF SEDATIVES ON BRAIN STEM OCULOMOTOR SYSTEMS IN MAN. 082061 13-13

HANGOVER EFFECTS OF HYPNOTICS IN MAN. 087363 13-14

CLINICAL AND METABOLIC STUDIES WITH IMIPRAMINE IN MAN. 086143 13-07

BEHAVIORAL EFFECTS OF L-DOPA IN MAN (UNPUBLISHED PAPER). 088387 13-11

PHARMACOLOGICAL STUDIES OF FLUPHENAZINE AND NORTRIPTYLINE IN COMBINATION IN MAN. 089325 13-13

REVIEW OF THE EFFECTS IN MAN OF MARIJUANA AND TETRAHYDROCANNABINOLS ON SUBJECTIVE STATE AND PHYSIOLOGIC FUNCTIONING (UNPUBLISHED PAPER). 092101 13-13

PROGRESS REPORT ON THE ASSESSMENT OF THE ANTAGONISTS NALBUPHINE AND GPA-2087 FOR ABUSE POTENTIAL AND STUDIES OF THE EFFECTS OF DEXTROMETHORPHAN IN MAN (UNPUBLISHED PAPER). 094938 13-13

PHYSIOLOGIC, SUBJECTIVE AND BEHAVIORAL EFFECTS OF AMPHETAMINE, METHAMPHETAMINE, EPHEDRINE, PHENMETRAZINE, AND METHYLPHENIDATE IN MAN. 095003 13-13

PSYCHOTOMIMETIC COMPOUNDS IN MAN AND ANIMALS. 099337 13-12

A PHARMACOKINETIC ANALYSIS OF LITHIUM CARBONATE ABSORPTION FROM SEVERAL FORMULATIONS IN MAN. 100258 13-07

METHODOLOGIC CONSIDERATIONS OF THE EVALUATION OF HYPNOTICS IN MAN: A BIOLOGIC ASSAY OF PENTOBARBITAL AND SECOBARBITAL. 100261 13-16

IMIPRAMINE TISSUE REPARTITION BREAKDOWN IN MAN AS RELATED TO SIX CASES OF FATAL INTOXICATION. 100406 13-15

ACTIONS AND METABOLISM OF HEROIN ADMINISTERED BY CONTINUOUS INTRAVENOUS INFUSION TO MAN. 100417 13-13

IMPAIRMENT OF DRUG METABOLISM BY DISULFIRAM IN MAN. 100419 13-13

INCREASE OF ETHANOL, MEPROBAMATE AND PENTOBARBITAL METABOLISM AFTER CHRONIC ETHANOL ADMINISTRATION IN MAN AND IN RATS. 100792 13-13

METABOLISM OF THE ANTICONVULSANT 10,11-DIHYDRO-5H-DIBENZO(A,D) CYCLOHEPTENE-5-CARBOXAMIDE - I. METABOLIC FATE OF (14C)CYHEPTAMIDE IN ANIMALS AND MAN. 102735 13-13

DOSE RESPONSE ANALYSIS OF THE EFFECTS OF TETRAHYDROCANNABINOL IN MAN. 104362 13-12

STUDIES OF THE DEPENDENCE PRODUCING PROPERTIES OF GPA-1657, PROFADOL, AND PROPRIAM IN MAN. 104363 13-14

THE HYPNOTIC EFFECTS OF CODEINE AND SECOBARBITAL AND THEIR INTERACTION IN MAN. 104365 13-14

EFFECT OF BENZODIAZEPINES UPON SACCADIC EYE MOVEMENTS IN MAN. 104368 13-13

ETHYL-ALCOHOL: BLOOD LEVELS AND PERFORMANCE DECREMENTS AFTER ORAL ADMINISTRATION TO MAN. 104378 13-14

EFFECTS OF ALPHA-METHYLTYROSINE ON THE CEREBROSPINAL FLUID CONTENT OF HVA AND 5-HIAA IN MAN. 104570 13-13

DOXEPIN: EFFECTS ON TRANSPORT OF BIOGENIC AMINES IN MAN. 104571 13-13

BLOCKADE OF INTRAVENOUS AMPHETAMINE EUPHORIA IN MAN. 105083 13-13

STAFF MAN SYNDROME AND TRAUMA. 105547 13-11

ACUTE EFFECT OF DIMETHACRINE (50MG), MEFEXAMIDE (200MG), AND DIXYRAZINE (25MG) ON HIGHER NERVOUS ACTIVITY IN MAN. 105915 13-14

EFFECT OF PHYSOSTIGMINE ON THE INHIBITORY ACTION OF SCOPOLAMINE IN MAN. 105918 13-14

ON THE INTERACTION OF SCOPOLAMINE AND PHYSOSTIGMINE IN MAN. 105995 13-14

PSYCHOPHYSIOLOGIC CORRELATES OF MSH ACTIVITY IN MAN. 106761 13-14

PSYCHIATRIC SIDE-EFFECTS OF LEVODOPA IN MAN. 108007 13-15

CHLORPROMAZINE STIMULATION AND L-DOPA SUPPRESSION OF PLASMA PROLACTIN IN MAN. 109042 13-13

NEUROPHYSIOLOGICAL EFFECTS OF DIFFERENT ANESTHETICS IN UNCONSCIOUS MAN. 111343 13-13

NEUROPHYSIOLOGICAL EFFECTS OF DIFFERENT ANESTHETICS IN CONSCIOUS MAN. 111344 13-13

EFFECTS OF METHYLDOPA ON SLEEP PATTERNS IN MAN. 112201 13-14

PHARMACOKINETICS AND BIOLOGICAL EFFECTS OF NORTRIPTYLINE IN MAN. 112297 13-13

INTERACTIONS BETWEEN CATECHOLAMINES AND TRICYCLIC AND MONOAMINE OXIDASE INHIBITOR ANTIDEPRESSIVE AGENTS IN MAN. 120418 13-13

BIOLOGICAL HALF-LIFE OF CHLORDIAZEPOXIDE AND ITS METABOLITE, DEMOXEPAM, IN MAN. 120828 13-13

CHANGES IN THE BLADDER AND SPHINCTER TONUS OF THE BLADDER BY MEANS OF THYMOLEPTICS: CYSTOMANOMETRIC STUDIES IN MAN. 122292 13-15

THE EXCRETION OF HYDROXYAMYOLOBARBITONE IN MAN AFTER ORAL ADMINISTRATION OF AMYOLOBARBITONE AND HYDROXYAMYOLOBARBITONE. 122552 13-13

GENETIC CONTROL OF NORTRIPTYLINE KINETICS IN MAN - A STUDY OF RELATIVES OF PROPOSITI WITH HIGH PLASMA CONCENTRATION. 122578 13-13

STUDIES ON THE METABOLISM AND PHARMACOKINETICS OF NORTRIPTYLINE AND DESMETHYLIMIPRAMINE IN MAN. 122579 13-13

#### MANAGEMENT

MANAGEMENT OF TREATMENT. 077416 13-17

TRIAL MANAGEMENT IN PSYCHOPHARMACOLOGY: THE ROLES AND TASKS OF AN INDUSTRY PHYSICIAN. 078957 13-17

MANAGEMENT OF HYPERACTIVE BEHAVIOR IN CHILDREN. 080564 13-17

ANALGESICS AND PSYCHOTROPIC DRUGS IN THE MANAGEMENT OF DISEASE OF THE GUT. 087867 13-17

MEDICAL MANAGEMENT AND TREATMENT OF DUODENAL ULCER. 088231 13-13

EFFECTIVENESS OF VARIOUS TRANQUILLISERS IN THE MANAGEMENT OF SENILE RESTLESSNESS. 088488 13-14

METHADONE AND L-METHADYL ACETATE: USE IN MANAGEMENT OF NARCOTICS ADDICTS. 091592 13-07

OUTLINES OF THE MANAGEMENT OF COMMON PSYCHIATRIC CRISES AND EMERGENCIES IN THE COMMUNITY. 096018 13-17

SEVERE LITHIUM INTOXICATION: MANAGEMENT WITHOUT DIALYSIS AND REPORT OF A POSSIBLE TERATOGENIC EFFECT OF LITHIUM. 101174 13-15

DIAZEPAM IN THE MANAGEMENT OF THE NEONATAL NARCOTIC WITHDRAWAL SYNDROME. 101432 13-11

POSTOPERATIVE MANAGEMENT OF A NARCOTIC ADDICT. 104025 13-17

THE MANAGEMENT OF EXCITEMENT IN A GENERAL HOSPITAL PSYCHIATRIC WARD BY HIGH DOSAGE HALOPERIDOL. 115398 13-14

DRUGS IN THE MANAGEMENT OF ANXIETY. 115620 13-10

THE CLINICAL PICTURE AND MANAGEMENT OF GILLES-DE-LA-TOURETTES SYNDROME. 118778 13-09

MANAGEMENT AND PROGNOSIS OF SO-CALLED ANOREXIA-NERVOSA. 122939 13-10

#### MANAGING

MANAGING THE PREGNANT ADDICT AND HER BABY. 078152 13-15

#### MANIA

RELATIONSHIP BETWEEN DEPRESSION AND MANIA. 073248 13-14

DRUGS AND TREATMENT OF DEPRESSION AND MANIA. 074202 13-10

CATECHOLAMINES AND MANIA: THE EFFECT OF ALPHA-METHYL-P-TYROSINE ON MANIC BEHAVIOR AND CATECHOLAMINE METABOLISM. 079064 13-09

METHYSERGIDE AS A TREATMENT FOR MANIA. 085407 13-07

STUDIES OF ALPHA-METHYL-P-TYROSINE, L-DOPA, AND L-TRYPTOPHAN IN DEPRESSION AND MANIA. 085448 13-09

MANIA AND THE USE OF LITHIUM: A THREE-YEAR STUDY. 089818 13-15

# Subject Index

- METHODOLOGY FOR DRUG EVALUATION IN AFFECTIVE DISORDERS:**  
**MANIA. AGENTS.** 095538 13-09
- MANIAC**  
 EEG, EVOKED POTENTIAL, AND CONTINGENT NEGATIVE VARIATIONS  
 WITH LITHIUM IN MANIAC DEPRESSIVE DISEASE. 097458 13-09
- MANIC**  
 CATECHOLAMINES AND MANIA: THE EFFECT OF ALPHA-METHYL-P-  
 TYROSINE ON MANIC BEHAVIOR AND CATECHOLAMINE METABOLISM.  
 079064 13-09
- MANIC PATIENTS IMPROVEMENT WITH METHYLSERGIDE. 085406 13-07
- CLINICAL AND ELECTROENCEPHALOGRAPHIC EFFECTS OF CIMANSERIN IN  
 SCHIZOPHRENIC AND MANIC PATIENTS. 088153 13-07
- MANIC RESPONSE TO LEVODOPA THERAPY: REPORT OF A CASE.  
 099922 13-15
- COMPARATIVE EFFECTS OF LITHIUM AND CHLORPROMAZINE IN THE  
 TREATMENT OF ACUTE MANIC STATES. 101897 13-09
- MANIC BEHAVIOR AND LEVODOPA. 102750 13-15
- MANIC BEHAVIOR AND LEVODOPA. 103187 13-15
- MANIC BEHAVIOR AND LEVODOPA. 103188 13-15
- OBSERVATIONS ON CHANGES IN THE CLINICAL PHENOMENOLOGY OF  
 MANIC PHASES UNDER EXTENDED LITHIUM THERAPY. 103797 13-14
- MANIC-DEPRESSIVE**  
 LITHIUM CARBONATE TREATMENT IN THE MANIC-DEPRESSIVE AND  
 PREDICTABILITY OF OUTCOME OF TREATMENT. 086166 13-15
- RENAL LITHIUM ELIMINATION IN MANIC-DEPRESSIVE PATIENTS -- INITIAL  
 EXCRETION AND CLEARANCE. 087000 13-13
- LITHIUM PROPHYLAXIS IN MANIC-DEPRESSIVE PSYCHOSES. 088690 13-09
- EXPERIMENTAL WITHDRAWAL OF LITHIUM IN RECOVERED MANIC-  
 DEPRESSIVE PATIENTS: A REPORT OF FIVE CASES. 092514 13-09
- LITHIUM AS A THERAPEUTIC AGENT IN THE TREATMENT OF MANIC-  
 DEPRESSIVE ILLNESS. 097549 13-09
- MECHANISM OF LITHIUM CARBONATE IN MANIC-DEPRESSIVE ILLNESS: A  
 REVIEW. 098288 13-13
- LITHIUM FOR MANIC-DEPRESSIVE DISORDERS: CHALLENGE TO  
 ELECTROSHOCK THERAPY? 100236 13-09
- EFFECT OF LITHIUM CITRATE ON ADRENOCORTICAL ACTIVITY IN MANIC-  
 DEPRESSIVE ILLNESS. 100317 13-09
- LITHIUM PROPHYLAXIS IN MANIC-DEPRESSIVE PSYCHOSIS AND IN  
 RECURRENT ENDOGENOUS DEPRESSIONS. 103320 13-09
- SOME CURRENT THOUGHTS ON LITHIUM CARBONATE IN MANIC-  
 DEPRESSIVE ILLNESS BASED ON A DOUBLE-BLIND COMPARISON WITH  
 CHLORPROMAZINE. 103627 13-09
- RESULTS OF LITHIUM TREATMENT OF MANIC-DEPRESSIVE PSYCHOSIS IN  
 COMPARISON WITH THE CONTROL GROUP. 105830 13-09
- CLINICAL EXPERIENCE WITH PROPHYLACTIC LITHIUM THERAPY OF  
 MANIC-DEPRESSIVE PSYCHOSES. 105928 13-09
- INFLUENCE OF ACTIVE BIOLOGICAL TREATMENT ON THE TIME OF  
 DURATION OF REMISSION IN MANIC-DEPRESSIVE PSYCHOSIS.  
 122942 13-09
- MANIC-DEPRESSIVES**  
 THE INFLUENCE OF PROPHYLACTIC LITHIUM TREATMENT ON THE  
 MARITAL ADJUSTMENT OF MANIC-DEPRESSIVES AND THEIR SPOUSES.  
 100314 13-09
- MANIFESTATIONS**  
 PROBLEMS RAISED IN THE TREATMENT OF NEUROLOGICAL AND  
 NEUROPSYCHIATRIC MANIFESTATIONS IN SYSTEMIC LUPUS-  
 ERYTHEMATOSUS. 089134 13-15
- ON THE ANALYSIS OF SIDE (NEUROLEPTIC) MANIFESTATIONS IN THE  
 TREATMENT OF SCHIZOPHRENIC PATIENTS WITH MAJEPTIL.  
 102657 13-08
- EXPERIMENTAL CHARACTERISTICS OF SOME MANIFESTATIONS COMMON  
 TO THE WITHDRAWAL SYNDROME FOLLOWING DISCONTINUANCE OF  
 LONG-TERM ADMINISTRATION OF DIAZEPAM AND  
 CHLORDIAZEPoxide. 111134 13-04

# Psychopharmacology Abstracts

- MAO**  
 DEPRESSION EASED BY MAO INHIBITION. 083393 13-09
- STUDIES ON ANALGESIC EFFECTS OF MAO INHIBITORS. 100506 13-03
- THE TOXICITY OF TWO MAO INHIBITORS COMBINED WITH 5-HTP OR L-  
 DOPA IN ANESTHETIZED MICE. 103314 13-05
- HYPERTENSIVE CRISES DURING MAO THERAPY. 111128 13-15
- BIOCHEMICAL AND PHARMACOLOGICAL PROPERTIES OF P-AMINO-  
 GAMMA-MORPHOLINOBUTYROPHENONE (FG-5310), A NEW SELECTIVE  
 MAO INHIBITOR. 123272 13-03
- A COMPARISON OF FG-5310, A NEW SELECTIVE MONOAMINE OXIDASE  
 INHIBITOR, AND OTHER MAO INHIBITORS ON THE BLOOD PRESSURE  
 RESPONSE TO TYRAMINE. 123287 13-03
- MARIHUANA**  
 HUNGER AND APPETITE AFTER SINGLE-DOSES OF MARIHUANA,  
 ALCOHOL, AND DEXTROAMPHETAMINE. 069320 13-13
- MARIHUANA - A MEDICAL REVIEW. 079356 13-14
- THE INFLUENCE OF ALCOHOL AND MARIHUANA ON MOTOR AND  
 MENTAL PERFORMANCE. 079431 13-14
- ACUTE TOLERANCE TO THE HYPOTHERMIC EFFECT OF MARIHUANA IN  
 THE RAT. 085487 13-13
- MARIHUANA: IMPORTANCE OF THE ROUTE OF ADMINISTRATION. 088639 13-03
- TOXICOLOGY AND TERATOLOGY OF MARIHUANA AND CONSTITUENTS  
 (UNPUBLISHED PAPER). 093551 13-05
- RETRIEVAL OF INFORMATION AFTER USE OF MARIHUANA. 095480 13-14
- MARIHUANA AND THE TEMPORAL SPAN OF AWARENESS. 095925 13-14
- IMPAIRMENT OF RECENT MEMORY BY MARIHUANA AND THC IN RHESUS  
 MONKEYS. 099697 13-04
- SOME CARDIOVASCULAR EFFECTS OF MARIHUANA SMOKING IN  
 NORMAL VOLUNTEERS. 100418 13-13
- EFFECTS OF MARIHUANA EXTRACT ON THE OPERANT BEHAVIOR OF  
 CHIMPANZEES. 107628 13-04
- SOME PHARMACOLOGIC CORRELATES TO MARIHUANA USE.  
 (UNPUBLISHED PAPER). 107886 13-15
- MARIHUANA AND DIABETIC COMA. 113636 13-15
- MARIHUANA STUDIES. 116023 13-17
- THE NIMH BIOMEDICAL PROGRAM OF MARIHUANA RESEARCH.  
 (UNPUBLISHED PAPER). 126570 13-17
- MARIJUANA**  
 MARIJUANA: A REALIST APPROACH. 082713 13-17
- REVIEW OF THE EFFECTS IN MAN OF MARIJUANA AND  
 TETRAHYDROCANNABINOLS ON SUBJECTIVE STATE AND PHYSIOLOGIC  
 FUNCTIONING (UNPUBLISHED PAPER). 092101 13-13
- METABOLISM AND DISPOSITION OF TETRAHYDROCANNABINOLS IN  
 NAIVE SUBJECTS AND MARIJUANA USERS (UNPUBLISHED PAPER).  
 092894 13-13
- WORK WITH MARIJUANA. I. EFFECTS. 093697 13-14
- ADMINISTRATION OF MARIJUANA TO HEAVY AND CASUAL MARIJUANA  
 USERS. 100821 13-14
- A TOXICOLOGIC VIEW OF MARIJUANA. 101156 13-15
- THE EFFECTS OF A MARIJUANA EXTRACT ON THE GENERAL MOTOR  
 ACTIVITY OF THE SQUIRREL MONKEY. 105077 13-04
- CHEMISTRY AND PHARMACOLOGY OF MARIJUANA. 111998 13-17
- MARITAL**  
 THE INFLUENCE OF PROPHYLACTIC LITHIUM TREATMENT ON THE  
 MARITAL ADJUSTMENT OF MANIC-DEPRESSIVES AND THEIR SPOUSES.  
 100314 13-09
- MARSILID**  
 AN UNUSUAL REEVALUATION OF MARSILID AS AN ANTIDEPRESSANT.  
 089002 13-09

- MASKED**  
ANXIETY STATE OR MASKED DEPRESSION? A STUDY BASED ON THE ACTION OF MONOAMINE OXIDASE INHIBITORS. 100791 13-10
- MAST**  
PRELIMINARY REPORT ON THE INCORPORATION OF GUANETHIDINE AND RESERPINE INTO RAT PERITONEAL MAST CELLS IN VITRO. 111073 13-03  
THE INTERFERENCE OF TRICYCLIC PSYCHOACTIVE DRUGS ON THE UPTAKE OF BIOGENIC AMINES BY ISOLATED MAST CELLS. 123282 13-03
- MATERNAL**  
REPLACEMENT OF PROGESTERONE WITH A PHENOTHIAZINE IN THE INDUCTION OF MATERNAL BEHAVIOR IN THE OVARECTOMIZED NULLIPAROUS RAT. 095383 13-04  
CROSS-GENERATIONAL EFFECTS RESULTING FROM AN EARLY MATERNAL CHRONIC DRUG EXPERIENCE. 104173 13-04
- MATING**  
MATING BEHAVIOR IN THE MALE RAT TREATED WITH P-CHLOROPHENYLALANINE METHYL ESTER ALONE AND IN COMBINATION WITH PARGYLINE. 104431 13-04
- MATTER**  
SOMATOSENSORY EVOKED RESPONSES IN THE MESENCEPHALIC CENTRAL GRAY MATTER OF THE RAT. 097446 13-03  
EFFECT OF PSYCHOTROPIC AGENTS ON THE EMOTIONAL BEHAVIOR OF CATS INJECTED WITH ACETYLCHOLINE INTO THE CENTRAL GRAY MATTER. 112007 13-04
- MAXIMUM**  
RESERPINE AND ACETAZOLAMIDE IN MAXIMUM ELECTROSHOCK SEIZURE IN THE RAT. 082880 13-03
- MAZE**  
THE EFFECT OF STRYCHNINE ADMINISTRATION DURING DEVELOPMENT ON ADULT MAZE LEARNING IN THE RAT II: DRUG ADMINISTRATION FROM DAY 51 TO 70. 104377 13-04  
EFFECTS OF SOME ANTICHOLINERGIC DRUGS ON WATER MAZE LEARNED BEHAVIOUR IN MICE. 104794 13-04  
LYSERGIC ACID DIETHYLAMIDE, AMPHETAMINE AND CHLORPROMAZINE ON WATER MAZE DISCRIMINATION IN MICE. 104812 13-04  
THE EFFECTS OF HYDROXYZINE ON WATER MAZE PERFORMANCE. (PH.D. DISSERTATION). 109636 13-04  
EFFECTS OF STRYCHNINE DURING DIFFERENT PERIODS OF DEVELOPMENT ON MAZE LEARNING IN ADULT RATS. 120961 13-03
- MCGILL**  
MCGILL RECOGNIZES SPECIALITY OF PSYCHOPHARMACOLOGY BY ESTABLISHING NEW DEPARTMENT. 078127 13-17
- MDA**  
NEAR FATAL REACTION TO INGESTION OF THE HALLUCINOGENIC DRUG MDA. 125427 13-15
- MDH**  
ANTIPARKINSONIAN EFFICACY AND TOXICITY OF L-DOPA ALONE AND IN COMBINATION WITH ALPHA-METHYLDOPAHYDRAZINE (MDH) (UNPUBLISHED PAPER). 092899 13-09
- MEALS**  
DIURNAL VARIATION OF HEPATIC AMPHETAMINE CONCENTRATIONS IN MICE FED FREELY AND FED SINGLE DAILY MEALS. 106425 13-03
- MEASURE**  
STIMULANT ACTION OF D-AMPHETAMINE IN RELATION TO TEST COMPARTMENT DIMENSIONS AND BEHAVIORAL MEASURE. 086901 13-04  
A METHOD TO MEASURE INTERACTIONS OF VARIOUS AGENTS AND ETHANOL ON BEHAVIORAL PERFORMANCE IN RATS. MEDICINE. 088624 13-06  
PERCEPTION AND TOLERANCE OF PAIN AS A MEASURE OF ANTIPSYCHOTIC TREATMENT. 121259 13-08
- MEASUREMENT**  
MEASUREMENT OF PHASIC INTEGRATED POTENTIALS (PIP) DURING TREATMENT WITH PARA-CHLOROPHENYLALANINE (PCPA) (UNPUBLISHED PAPER). 093258 13-14  
DRUG INTERFERENCE WITH MEASUREMENT OF ADRENAL HORMONES IN URINE: ANALGESICS AND TRANQUILIZER SEDATIVES. 104427 13-13
- MEASUREMENT OF PHARMACOLOGICAL DEPRESSION OF EXPLORATORY ACTIVITY IN MICE: A CONTRIBUTION TO THE PROBLEM OF TIME ECONOMY AND SENSITIVITY.** 104704 13-06
- MEASURING**  
A SIMPLE METHOD FOR MEASURING THE GENERAL ACTIVITY OF RATS IN BRAIN STIMULATION AND OTHER STUDIES. 087289 13-06  
APPROACHES TO MEASURING THE EFFICACY OF DRUG TREATMENT OF PERSONALITY DISORDERS: AN ANALYSIS AND PROGRAM. 095542 13-10  
ANTAGONISM OF INTRACEREBRALLY INDUCED NICOTINIC CONVULSIONS IN MICE: A METHOD FOR MEASURING THE CENTRAL ANTINICOTINIC ACTIVITY OF CNS ACTING AGENTS. 104807 13-06
- MECHANISM**  
L-DOPA IN PARKINSONISM: A POSSIBLE MECHANISM OF ACTION (UNPUBLISHED PAPER). 085956 13-13  
MECHANISM OF THE ANTAGONISM BY 5-HYDROXYTRYPTAMINE OF THE TOXICITY DUE TO CERTAIN CHOLINERGIC BLOCKING AGENTS. 086898 13-03  
MECHANISM OF ACTION OF ANTIPSYCHOTIC DRUGS ON BIOLOGICAL ELECTRON TRANSPORT. 087365 13-03  
CHOLINERGIC MECHANISM DETERMINES THE OCCURRENCE OF REWARD CONTINGENT POSITIVE VARIATION (RCPV) IN CAT. 088543 13-03  
MECHANISM OF LITHIUM CARBONATE IN MANIC-DEPRESSIVE ILLNESS: A REVIEW. 098288 13-13  
MECHANISM OF CIRCULATORY EFFECTS OF CHLORCYCLIZINE. 099650 13-03  
AN EVALUATION OF THE CONTRIBUTION OF CHOLINERGIC MECHANISM TO THIRST. 105346 13-04  
THE MECHANISM OF THE PUSH AND PULL PRINCIPLE. VIII: ENDOCRINE EFFECTS OF THALIDOMIDE AND ITS ANALOGUES. 106146 13-03  
A POSSIBLE SYNAPTIC MECHANISM UNDERLYING THE SIMILAR BEHAVIOURAL EFFECTS OF ADRENALINE-LIKE AND ACETYLCHOLINE-LIKE DRUGS. 106846 13-13  
ELEVATION OF BRAIN GABA BY PARGYLINE: A POSSIBLE MECHANISM FOR PROTECTION AGAINST OXYGEN TOXICITY. 106920 13-03  
SLEEP APNEA AND SLEEP REGULATING MECHANISM: A CASE EFFECTIVELY TREATED WITH MONOCHLORIMIPRAMINE. 111589 13-13  
STUDIES ON THE MECHANISM OF AVOIDANCE FACILITATION BY NICOTINE. 112314 13-04  
CORRELATION OF THE RECOVERY OF THE GRANULAR UPTAKE STORAGE MECHANISM AND THE NERVE IMPULSE INDUCED RELEASE OF (3H)NORADRENALINE AFTER RESERPINE. 120819 13-03  
A MECHANISM FOR THE DEVELOPMENT OF TOLERANCE TO AMPHETAMINE IN RATS. 125166 13-03  
MECHANISM OF ACTION OF PSYCHOTOMIMETIC DRUGS IN THE BRAIN STEM. 125593 13-13
- MECHANISMS**  
PHARMACOLOGY AND MECHANISMS OF ACTION OF DIPHENYLHYDANTOIN. 093933 13-03  
THE INVOLVEMENT OF CENTRAL CHOLINERGIC MECHANISMS IN THE FORMATION AND INHIBITION OF CONDITIONAL REFLEXES IN RATS. 098295 13-04  
CHOLINERGIC MECHANISMS AND AVOIDANCE BEHAVIOR ACQUISITION: EFFECTS OF NICOTINE IN MICE. 104462 13-04  
PHARMACOLOGICAL ACTION MECHANISMS OF NARCOTIC AGENTS. 107512 13-12  
THE EFFECT OF IMIPRAMINE-LIKE DRUGS AND ANTIHISTAMINE DRUGS ON UPTAKE MECHANISMS IN THE CENTRAL NORADRENALINE AND 5-HYDROXYTRYPTAMINE NEURONS. 107961 13-03  
BIOCHEMICAL MECHANISMS OF TRANSFERABLE DRUG RESISTANCE. 108522 13-03  
EVOKED POTENTIAL AND SINGLE UNIT STUDIES OF NEURAL MECHANISMS UNDERLYING THE EFFECTS OF REPETITIVE STIMULATION IN THE AUDITORY PATHWAY. 108671 13-03  
ADRENERGIC MECHANISMS IN HYPOGLYCEMIC SHOCK IN RABBITS. II. DISORDERS OF ADRENERGIC RESPONSE COMPENSATING HYPOGLYCEMIA IN RABBITS TREATED WITH SMALL DOSES OF RESERPINE. 119648 13-03

# Subject Index

- MECHANISMS OF INHIBITION OF CEREBELLAR PURKINJE CELLS IN RAT AND FROG.** 125594 13-03
- MECLIZINE**  
EFFECTS OF DIAZEPAM AND MECLIZINE HYDROCHLORIDE ON EMOTIONAL UPSET DUE TO PERCEPTUAL DISSONANCE AND MOTION. 101578 13-04
- MEDAZEPAM**  
THE EFFECT OF SOLVENTS ON THE POTENCY OF CHLORDIAZEPOXIDE, DIAZEPAM, MEDAZEPAM AND NITRAZEPAM. 077908 13-02  
MEDAZEPAM (NOBRIUM) IN THE THERAPY OF PSYCHONEUROSES. 087135 13-10  
MEDAZEPAM COMPARED WITH AMYLOBARBITONE IN TREATMENT OF ANXIETY. 088243 13-10  
DOUBLE-BLIND COMPARATIVE STUDY OF DOXEPINE AND MEDAZEPAM IN ADOLESCENTS. 100605 13-10  
ACUTE EFFECT OF MEDAZEPAM (15MG), OXAZEPAM (20MG), AND DIAZEPAM (10MG) ON VERBAL ASSOCIATIONS. 105916 13-14
- MEDIA**  
MEDICINES, THE MEDIA AND THE MENACE. 120970 13-17
- MEDIAL**  
LESIONS IN THE MEDIAL FOREBRAIN BUNDLE: RELATIONSHIP BETWEEN PAIN SENSITIVITY AND TELECEPHALIC CONTENT OF SEROTONIN. 086171 13-03  
JOINT EFFECTS OF MEDIAL SEPTAL LESIONS AND AMYLOBARBITONE INJECTIONS ON RESISTANCE TO EXTINCTION IN THE RAT. 106392 13-04
- MEDIAN**  
ALCOHOL INGESTION IN RATS FOLLOWING MEDIAN EMINENCE LESIONS. 079428 13-04
- MEDIATED**  
CORTICOSTERONE ELEVATION MEDIATED CENTRALLY BY DELTA1-TETRAHYDROCANNABINOL IN RATS. 079430 13-03  
KINETICS OF THE GLUCOCORTICOID MEDIATED INDUCTION OF PHENYLETHANOLAMINE N METHYL TRANSFERASE IN THE HYPOPHYSECTOMIZED RAT. 108720 13-03
- MEDICAL**  
LSD REVISITED: A TEN-YEAR FOLLOW-UP OF MEDICAL LSD USE. 072262 13-12  
TREATMENT OF ANXIOUS DEPRESSIVE PATIENTS IN GENERAL MEDICAL PRACTICE. 074318 13-07  
PHARMACOLOGIC CONSIDERATIONS IN THE TREATMENT OF ANXIETY AND DEPRESSION IN MEDICAL PRACTICE. 074974 13-10  
MARIHUANA - A MEDICAL REVIEW. 079356 13-14  
MEDICAL MANAGEMENT AND TREATMENT OF DUODENAL ULCER. 088231 13-13  
DRUGS, PHYSICIANS AND THE MEDICAL MODEL. 102448 13-17  
PSYCHIATRIC COMPLICATIONS OF MEDICAL DRUGS. 107546 13-15
- MEDICATION**  
THE EFFECTS OF PHENOTHIAZINE MEDICATION ON SKIN CONDUCTANCE AND HEART RATE IN SCHIZOPHRENIC PATIENTS. 085015 13-08  
MEDICATION, ANXIETY REDUCTION AND PATIENT REPORT OF SIGNIFICANT LIFE SITUATION EVENTS. 092456 13-10  
MEDICATION TREATMENT OF VASCULAR HYPOTONIC CONDITION PICTURES. 095131 13-13  
A TECHNIQUE IN THE EVALUATION OF PSYCHOTROPIC MEDICATION BASED ON A PATIENT DEMAND SCHEDULE: COMPARISON OF THE EFFICACY OF OXYPERTINE, DIAZEPAM AND PLACEBO IN ANXIETY. 100538 13-10  
USE OF ANTIEPILEPTIC MEDICATION IN TREATING FLASHBACKS FROM HALLUCINOGENIC DRUGS. 102589 13-17  
PLAYROOM OBSERVATIONS OF HYPERACTIVE CHILDREN ON MEDICATION. 106308 13-11  
EFFECTS OF OXAZOLAM AS A MEDICATION BEFORE ANESTHESIA. 123046 13-14  
EFFECTS OF OXAZOLAM AS A MEDICATION BEFORE ANESTHESIA. 123047 13-13
- MEDICATIONS**  
ARE OVER-THE-COUNTER SLEEP MEDICATIONS EFFECTIVE? ALL-NIGHT EEG STUDIES. 079234 13-14

# Psychopharmacology Abstracts

- COMBINATION MEDICATIONS IN PSYCHIATRIC TREATMENT. PATTERNS IN A GROUP OF ELDERLY HOSPITAL PATIENTS.** 086704 13-14
- COMPLICATIONS OF PSYCHOTROPIC MEDICATIONS IN HIGH DOSAGE.** 098690 13-15
- MEDICINE**  
N-DEMETHYLATION OF N-14C-METHYL-CODEINE IN MORPHINE TOLERANT AND NONTOLERANT RATS AND MICE. MEDICINE. 077878 13-03  
A METHOD TO MEASURE INTERACTIONS OF VARIOUS AGENTS AND ETHANOL ON BEHAVIORAL PERFORMANCE IN RATS. MEDICINE. 088624 13-06  
FLUPENTHIXOL (FLUANXOL) IN THE TREATMENT OF PSYCHOSOMATIC DISORDERS IN MEDICINE. 099882 13-10  
BEHAVIORAL SCIENCE IN PEDIATRIC MEDICINE. 118690 13-14
- MEDICINES**  
MEDICINES, THE MEDIA AND THE MENACE. 120970 13-17
- MEDICO-LEGAL**  
ACUTE INTOXICATION BY MEPROBAMATE: CLINICAL AND MEDICO-LEGAL ASPECTS. 100404 13-15
- MEDIUM**  
ENHANCEMENT OF FATTY ACID OXIDATION AND MEDIUM CHAIN FATTY ACYL COENZYME A SYNTHETASE BY ADENINE NUCLEOTIDES IN RAT HEART HOMOGENATES. 089434 13-03
- MEDULLA**  
TETRAHYDROISOQUINOLINE ALKALOIDS IN THE ADRENAL MEDULLA AFTER PERFUSION WITH BLOOD CONCENTRATIONS OF (14C)ACETALDEHYDE. 108281 13-03
- MEFEXAMIDE**  
ACUTE EFFECT OF DIMETHACRINE (50MG), MEFEXAMIDE (200MG), AND DIXYRAZINE (25MG) ON HIGHER NERVOUS ACTIVITY IN MAN. 105915 13-14
- MEGAVITAMIN**  
THE USE OF MEGAVITAMIN THERAPY IN REGULATING SEVERE BEHAVIOR DISORDERS, DRUG ABUSES AND FRANK PSYCHOSIS. 082735 13-17  
MEGAVITAMIN THERAPY - A READERS VIEW. 109399 13-08
- MEGAVITAMIN-B-3**  
MEGAVITAMIN-B-3 THERAPY FOR SCHIZOPHRENIA. 108837 13-08
- MELATONIN**  
ON THE EFFECT OF MELATONIN UPON HUMAN BRAIN: ITS POSSIBLE THERAPEUTIC IMPLICATIONS. 101657 13-14
- MELIPRAMINE**  
EFFECT OF MELIPRAMINE ON SEROTONIN METABOLISM IN THE RAT BRAIN. 111765 13-03
- MELLERIL**  
CLINICAL EXPERIENCE WITH THIORIDAZINE (MELLERIL) IN THE TREATMENT OF ANXIETY AND DEPRESSION ASSOCIATED WITH EMOTIONAL DISORDERS IN GENERAL PRACTICE. 097556 13-10  
ALTERNATE APPLICATION OF MELLERIL SANDOZ (THIORIDAZINE) AND ITS METABOLITE INOFAL IN PSYCHIATRIC THERAPY. 126007 13-11
- MEMBRANAL**  
EFFECT OF PHENELZINE ON THE METABOLISM AND MEMBRANAL TRANSPORT OF GLUCOSE IN BRAIN. 108287 13-03
- MEMBRANE**  
CHLORDIAZEPOXIDE AND AVERSIVE CONDITIONING: EFFECTS OF ACQUISITION AND PERFORMANCE OF THE CONDITIONED NICTITATING MEMBRANE RESPONSE IN THE RABBIT. 078527 13-04  
MODIFICATION BY A TRICYCLIC SERIES OF COMPOUNDS OF THE NORADRENALINE EFFECT ON THE CAT NICTITATING MEMBRANE. 089326 13-03  
INSULIN RECEPTORS IN THE LIVER: SPECIFIC BINDING OF 125I INSULIN TO THE PLASMA MEMBRANE AND ITS RELATION TO INSULIN BIOACTIVITY (UNPUBLISHED PAPER). 092377 13-03
- MEMORY**  
AMNESIC EFFECTS OF CYCLOHEXIMIDE ON TWO STRAINS OF MICE WITH DIFFERENT MEMORY CHARACTERISTICS. 082799 13-04  
CYCLOHEXIMIDE: ITS EFFECTS ON ACTIVITY ARE DISSOCIABLE FROM ITS EFFECTS ON MEMORY. 089015 13-04

- DYSNOMIA AND IMPAIRMENT OF VERBAL MEMORY FOLLOWING INTRACAROTID INJECTION OF SODIUM AMYTAL.** 092199 13-14
- PENTYLENETETRAZOL IN THE TREATMENT OF GERIATRIC PATIENTS WITH DISTURBED MEMORY FUNCTION.** 098611 13-11
- IMPAIRMENT OF RECENT MEMORY BY MARIHUANA AND THC IN RHESUS MONKEYS.** 099697 13-04
- TIME DEPENDENT MEMORY DEFICITS PRODUCED BY PENTYLENETETRAZOL (METRAZOL) - THE EFFECT OF REINFORCEMENT MAGNITUDE.** 102305 13-04
- THE EFFECT OF RNA PRECURSORS ON THE MAINTENANCE OF LONG-TERM MEMORY.** 103946 13-04
- THE EFFECT OF PHYSOSTIGMINE ON THE PERCEPTION AND CONSOLIDATION PHASE OF MEMORY AND LEARNING IN ALCOHOLICS.** 105917 13-14
- DRUG EFFECTS AND LEARNING AND MEMORY PROCESSES.** 108520 13-13
- THE EFFECTS OF DRUG-INDUCED INCREASES IN RIBONUCLEIC ACIDS AND PROTEINS ON MEMORY. (PH.D.DISSERTATION).** 109503 13-04
- THE EFFECTS OF SEVERAL CHEMICAL AGENTS ON SHORT-TERM MEMORY.** 122758 13-02
- SEPARATION OF THE EFFECTS OF MAGNESIUM PEMOLINE ON AVOIDANCE LEARNING AND MEMORY FROM ITS CENTRAL NERVOUS SYSTEM STIMULANT PROPERTIES BY CHLORDIAZEPOXIDE.** 125410 13-04
- MENACE**
- ANTIDEPRESSANT OVERDOSAGE IN CHILDREN - A NEW MENACE.** 108014 13-15
- MEDICINES, THE MEDIA AND THE MENACE.** 120970 13-17
- MENOPAUSE**
- INCREASED SEXUAL DESIRE AT THE MENOPAUSE: A MYTH EXPLODED.** 093796 13-11
- MENSTRUATING**
- PLASMA MONOAMINE OXIDASE ACTIVITY IN REGULARLY MENSTRUATING WOMEN AND IN AMENORRHEIC WOMEN RECEIVING CYCLIC TREATMENT WITH ESTROGENS AND A PROGESTIN.** 104616 13-13
- MENTAL**
- MENTAL EFFECTS OF HIGH-DOSAGE LEVODOPA.** 071597 13-11
- CHLORPROTHIXENE ENFORCED SLEEP FOR NEWLY ADMITTED PATIENTS WITH ACUTE MENTAL DECOMPENSATION.** 078951 13-14
- THE INFLUENCE OF ALCOHOL AND MARIHUANA ON MOTOR AND MENTAL PERFORMANCE.** 079431 13-14
- DRUG ADVERTISING AND PERCEPTION OF MENTAL ILLNESS.** 085597 13-17
- BEHAVIOR AND HOW IT IS AFFECTED BY DRUGS IS BEING INVESTIGATED BY THE NORTH-CAROLINA DEPARTMENT OF MENTAL HEALTH BY USING SPIDERS AS LABORATORY ANIMALS.** 086126 13-04
- EFFECTS OF INFUSED TESTOSTERONE ON MENTAL PERFORMANCES AND SERUM LH.** 088596 13-14
- ANABOLIC ACTION AND SIDE-EFFECTS OF OXANDROLONE IN 34 MENTAL PATIENTS.** 088629 13-15
- A PROPOSAL FOR A CONSISTENT NIGHT THERAPY FOR THE MENTAL PATIENT; CONJOINTLY, A CAUSISTIC CONTRIBUTION TO A DAY NIGHT THERAPY FOR DEPRESSIONS WITH PSYCHOTROPIC DRUGS.** 089067 13-09
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: CHANGES IN THE DIURNAL RHYTHM AND PSYCHIATRIC MENTAL STATUS ON WITHDRAWAL OF DRUGS.** 106050 13-08
- HASHISH AND MENTAL ILLNESS.** 107421 13-14
- COOPERATIVE STUDIES IN MENTAL HEALTH AND BEHAVIORAL SCIENCES.** 109315 13-17
- TREATMENT OF PERSISTENT MENTAL CHANGES IN CHILDREN WITH EPILEPSY.** 109947 13-14
- USE OF TEGRETOL IN THE TREATMENT OF EPILEPTIC PATIENTS WITH MENTAL DISORDERS.** 110120 13-11
- MENTAL COMPLICATIONS OF L-DOPA THERAPY IN PARKINSONS PATIENTS.** 110477 13-15
- USE OF ONE OF THE CHOLINESTERASE REACTIVATORS, DIPYROXIME, FOR TREATMENT OF MENTAL PATIENTS.** 113748 13-14
- ASSESSMENT OF THE CLINICAL ACTION OF THE PREPARATION TPN-12 SANDOZ IN THE TREATMENT OF MENTAL DISTURBANCES.** 122946 13-11
- MENTAL STATES FOLLOWING PREMEDICATION WITH NEUROLEPTICS AND ANALGESICS.** 125772 13-14
- MENTALLY**
- THE EFFECTIVENESS OF METHYLPHENIDATE HYDROCHLORIDE (RITALIN) ON LEARNING AND BEHAVIOR IN PUBLIC SCHOOL EDUCABLE MENTALLY RETARDED CHILDREN.** 087272 13-14
- MEPROBAMATE**
- MEPROBAMATE: A STUDY OF IRRATIONAL DRUG USE.** 088142 13-17
- IN VITRO EFFECTS OF CHLORPROMAZINE AND MEPROBAMATE ON BLAST TRANSFORMATION AND CHROMOSOMES.** 088626 13-03
- MEPROBAMATE THERAPY FOR THE MYOFASCIAL PAIN DYSFUNCTION (MPD) SYNDROME: A DOUBLE-BLIND EVALUATION.** 089881 13-17
- COMBINATION OF MEPROBAMATE AND BENACTYZINE (DEPROL) AND CONSTITUENTS IN NEUROTIC DEPRESSED OUTPATIENTS.** 100208 13-10
- ACUTE INTOXICATION BY MEPROBAMATE: CLINICAL AND MEDICO-LEGAL ASPECTS.** 100404 13-15
- INCREASE OF ETHANOL, MEPROBAMATE AND PENTOBARBITAL METABOLISM AFTER CHRONIC ETHANOL ADMINISTRATION IN MAN AND IN RATS.** 100792 13-13
- EFFECTS OF NICOTINE, NICOTINE MONOMETHIODIDE, LOBELINE, CHLORDIAZEPOXIDE, MEPROBAMATE AND CAFFEINE ON A DISCRIMINATION TASK IN LABORATORY RATS.** 104433 13-04
- THE CRITICAL FLICKER FUSION DURING THE ACTION OF DIFFERENT DRUGS: I. COFFEINE AND MEPROBAMATE (INCLUDING A FULL DESCRIPTION OF THE METHOD).** 104789 13-13
- HANDWRITING CHANGES FOLLOWING MEPROBAMATE AND ALCOHOL: A GRAPHOMETRIC GRAPHOLOGICAL INVESTIGATION.** 106143 13-14
- BRAIN EXCITABILITY AND BEHAVIORAL REACTIVITY IN MONKEYS UNDER MEPROBAMATE.** 106145 13-04
- THE EFFECTS OF MEPROBAMATE ON RISK-TAKING BEHAVIOR: A TEST OF WITTENBORNS HYPOTHESIS. (PH.D.DISSERTATION).** 118619 13-14
- MERCURY**
- MERCURY POISONING.** 102140 13-13
- MERIONES-UNGUICULATUS**
- SEX DIFFERENCE IN THE METABOLISM OF HEXOBARBITAL IN THE MONGOLIAN GERBIL (MERIONES-UNGUICULATUS).** 125329 13-03
- MERITS**
- A STUDY OF HOSPITAL STAFF ATTITUDES CONCERNING THE COMPARATIVE MERITS OF ANTIBIOTICS.** 069516 13-17
- MESCALINE**
- EFFECT OF MESCALINE AND LYSERGIC ACID DIETHYLAMIDE ON FLICKER DISCRIMINATION IN THE RAT.** 088584 13-04
- STIMULATION OF (14C) SEROTONIN SYNTHESIS FROM (14C) TRYPTOPHAN BY MESCALINE IN RAT PINEAL ORGAN CULTURES.** 088702 13-03
- COMPARISON OF METABOLISM OF MESCALINE AND 3,4 DIMETHOXYPHENYLETHYLAMINE IN HUMANS.** 098095 13-13
- ALTERATION OF BEHAVIOURAL CHANGES INDUCED BY 3,4,5 TRIMETHOXYPHENYLETHYLAMINE (MESCALINE) BY PRETREATMENT WITH 2,4,5 TRIMETHOXYPHENYLETHYLAMINE: A SELF-EXPERIMENT.** 102193 13-12
- OXIDATIVE METABOLISM OF MESCALINE IN THE CENTRAL NERVOUS SYSTEM - II. OXIDATIVE DEAMINATION OF MESCALINE AND 2,3,4 TRIMETHOXY-BETA-PHENYLETHYLAMINE BY DIFFERENT MOUSE BRAIN AREA IN VITRO.** 102734 13-03
- INFLUENCE OF (-)DELTA(G) TRANS-TETRAHYDROCANNABINOL AND MESCALINE ON THE BEHAVIOR OF RATS SUBMITTED TO FOOD COMPETITION SITUATIONS.** 104578 13-04
- EVIDENCE FOR STATE DEPENDENT LEARNING WITH MESCALINE IN A PASSIVE AVOIDANCE TASK.** 105079 13-04
- THE EFFECT OF MESCALINE AND BUFOTENINE ON SOME CENTRAL ACTIONS OF NORADRENALINE.** 106151 13-03

## Subject Index

- MESCALINE AND LYSERGIC ACID DIETHYLAMIDE (LSD) AS DISCRIMINATIVE STIMULI. 106489 13-04
- CONTINUED AVERSION TO SACCHARIN BY SINGLE ADMINISTRATIONS OF MESCALINE AND D-AMPHETAMINE. 107629 13-04
- EFFECT OF MESCALINE ON SINGLE CORTICAL NEURONES. 108796 13-03
- MESCALINE INDUCED CHANGES OF BRAIN CORTEX RIBOSOMES. EFFECT OF MESCALINE ON AMINO ACID INCORPORATING ABILITY OF RIBOSOMES. 109418 13-03
- EFFECTS OF PSILOCYBIN, DIMETHYLTRYPTAMINE, MESCALINE AND VARIOUS LYSERGIC ACID DERIVATIVES ON THE EEG AND ON PHOTICALLY INDUCED EPILEPSY (PAPIO-PAPIO). 109620 13-03
- EFFECTS OF MESCALINE AND NEMBUTAL ON CORTICAL AND RETINAL LIGHT EVOKED RESPONSES IN THE CAT. (PH.D.DISSERTATION). 109622 13-03
- EFFECTS OF LSD-25 AND MESCALINE ON THE ELECTROPLAX OF THE ELECTRIC EEL. 109918 13-03
- DIFFERENCES IN TOLERANCE TO MESCALINE PRODUCED BY PERIPHERAL AND DIRECT CENTRAL ADMINISTRATION. 125255 13-03
- MESCALINE-C14**  
A COMPARATIVE STUDY ON THE METABOLISM OF 3,4-DIMETHOXYPHENYLETHYLAMINE-C14 AND MESCALINE-C14 BY RABBIT, MOUSE AND RAT BRAIN HOMOGENATES. 106527 13-03
- MESCALINE-8-C14**  
STUDY WITH MESCALINE-8-C14 IN MICE. EFFECT OF AMINE OXIDASE INHIBITORS ON METABOLISM. 107959 13-03
- MESENCEPHALIC**  
SOMATOSENSORY EVOKED RESPONSES IN THE MESENCEPHALIC CENTRAL GRAY MATTER OF THE RAT. 097446 13-03
- EFFECT OF PUROMYCIN AND ACTINOMYCIN-D INJECTION INTO THE MESENCEPHALIC RETICULAR FORMATION ON THE CONDITIONED REFLEXES OF ANIMALS. 113758 13-04
- MESORIDAZINE**  
A CONTROLLED STUDY OF MESORIDAZINE: AN EFFECTIVE TREATMENT FOR SCHIZOPHRENIA. 087267 13-08
- THE EFFICACY OF MESORIDAZINE (LIDANIL) IN PSYCHONEUROSES AND SOMATIC ILLNESSES. 089302 13-11
- MESYLATE**  
COMBINED INTRAMUSCULAR ADMINISTRATION OF DEPOT FLUPHENAZINE AND BENZOTRINE MESYLATE IN CHRONIC SCHIZOPHRENIC PATIENTS. 098602 13-08
- METABOLIC**  
METABOLIC FATE OF AMPHETAMINE IN THE CAT DURING DEVELOPMENT OF TOLERANCE. 077990 13-03
- THE METABOLIC FATE OF PENTYLENETETRAZOL IN THE RAT. 082765 13-03
- BIOLOGICAL DISPOSITION AND METABOLIC FATE OF FLUPHENAZINE-14C IN THE DOG AND RHESUS MONKEY. 086580 13-03
- CLINICAL AND METABOLIC STUDIES WITH IMIPRAMINE IN MAN. 088143 13-07
- THE INFLUENCE OF HYPOTHERMIA ON CHLORPROMAZINE INDUCED METABOLIC CHANGES IN MOUSE HEART AND BRAIN. 088641 13-03
- METABOLIC ASPECTS OF AMINO ACID LOADING AND DRUG ADMINISTRATION IN ANIMAL STUDIES. AFFECTIVE ILLNESSES. 099335 13-03
- METABOLISM OF THE ANTICONVULSANT 10,11-DIHYDRO-5H-DIBENZO(A,D) CYCLOHEPTENE-5-CARBOXYAMIDE - I. METABOLIC FATE OF (14C)CYCLOHEPTAMIDE IN ANIMALS AND MAN. 102735 13-13
- METABOLIC FATE OF CANNABINOIDS IN RABBIT AND RAT. 123262 13-03
- METABOLISM**  
EFFECTS OF CHLORAL HYDRATE, PARALDEHYDE, AND ETHANOL ON THE METABOLISM OF (14C) SEROTONIN IN THE RAT. 077868 13-03
- THE EFFECT OF DELTA1-TETRAHYDROCANNABINOL ON SEROTONIN METABOLISM IN THE RAT BRAIN. 077902 13-03
- CATECHOLAMINES AND MANIA: THE EFFECT OF ALPHA-METHYL-P-TYROSINE ON MANIC BEHAVIOR AND CATECHOLAMINE METABOLISM. 079064 13-09

## Psychopharmacology Abstracts

- COMPARATIVE STUDIES OF VARIOUS AMPHETAMINE ANALOGUES DEMONSTRATING DIFFERENT INTERACTIONS WITH THE METABOLISM OF THE CATECHOLAMINES IN THE BRAIN. 079069 13-04
- CHANGES IN THE RETENTION AND METABOLISM OF 3H-1-NOREPINEPHRINE IN RAT BRAIN IN VIVO AFTER 6-HYDROXYDOPAMINE PRETREATMENT. 082721 13-03
- THE METABOLISM AND EXCRETION OF DELTA9-TETRAHYDROCANNABINOL IN THE RAT. 082733 13-03
- THE METABOLISM OF HEXOBARBITAL IN MICE AND METHODOLOGY FOR ISOLATION AND QUANTITATION OF ITS METABOLITES IN VIVO AND IN VITRO. 082782 13-03
- THE DISPOSITION AND METABOLISM OF TRYPTAMINE AND THE IN VIVO FORMATION OF 6-HYDROXYTRYPTAMINE IN THE RABBIT. 082786 13-03
- ON THE MODE OF ACTION OF RESERPINE ON DOPAMINE METABOLISM IN THE RAT STRIATUM. 083162 13-03
- COMPARATIVE EFFECTS OF P-CHLOROAMPHETAMINE AND AMPHETAMINE ON METABOLISM AND IN VIVO RELEASE OF 3H-NOREPINEPHRINE IN THE HYPOTHALAMUS. 086814 13-03
- METABOLISM OF HARMALINE IN RATS. 086818 13-03
- THE EFFECT OF PSYCHOPHARMACOLOGICAL COMPOUNDS ON BRAIN METABOLISM. 087002 13-17
- METABOLISM OF AMPHETAMINES TO OXIMES AS A ROUTE TO DEAMINATION. 087115 13-03
- PROTEIN METABOLISM AND AMINO ACID ACCUMULATION IN THE RAT SUBMAXILLARY GLAND DURING REDUCED SYMPATHETIC ACTIVITY. 087123 13-03
- METABOLISM OF CHLORPROMAZINE AND P-NITROBENZIC ACID IN THE LIVER, INTESTINE AND KIDNEY OF THE HUMAN FETUS. 088540 13-13
- EFFECTS OF IMIPRAMINE, DESIPRAMINE AND MONOAMINE OXIDASE INHIBITORS ON THE METABOLISM AND PSYCHOMOTOR STIMULANT ACTIONS OF D-AMPHETAMINE IN MICE. 089027 13-04
- CHANGES IN CALCIUM AND MAGNESIUM METABOLISM IN DEPRESSIONS AND DELIRIUM-TREMENS. 089200 13-13
- ACTIVATION OF BRAIN SEROTONIN METABOLISM BY HEAT: ROLE OF MIDBRAIN RAPHE NEURONS. 092374 13-03
- METABOLISM AND DISPOSITION OF TETRAHYDROCANNABINOLS IN NAIVE SUBJECTS AND MARIJUANA USERS (UNPUBLISHED PAPER). 092894 13-13
- AMYOTROPHIC LATERAL SCLEROSIS: METABOLISM OF CENTRAL MONOAMINES AND TREATMENT WITH L-DOPA (UNPUBLISHED PAPER). 093081 13-13
- ANTICONVULSANT DRUGS, FOLIC ACID METABOLISM, FIT FREQUENCY AND PSYCHIATRIC ILLNESS. 093822 13-15
- EFFECT OF LITHIUM ADMINISTRATION ON RNA METABOLISM IN RAT BRAIN. 096013 13-03
- GLUCOSE, INSULIN, AND FREE FATTY ACID METABOLISM IN PARKINSONS DISEASE TREATED WITH LEVODOPA. 096471 13-13
- COMPARISON OF METABOLISM OF MESCALINE AND 3,4-DIMETHOXYPHENYLETHYLAMINE IN HUMANS. 098095 13-13
- MODIFICATION BY TWO BETA-ADRENERGIC BLOCKING DRUGS OF THE EFFECTS OF METHAMPHETAMINE ON BEHAVIOR AND BRAIN METABOLISM OF MICE. 098207 13-04
- METABOLISM, DISTRIBUTION AND EXCRETION OF FLUPENTHIXOL DECANOATE IN DOGS AND RATS. 098615 13-03
- UPTAKE, METABOLISM AND EXCRETION OF DESMETHYLIMIPRAMINE AND ITS METABOLITES IN THE ISOLATED PERFUSED RAT LIVER. 098616 13-03
- EFFECT OF L-DOPA TREATMENT ON BRAIN SEROTONIN METABOLISM IN DEPRESSED PATIENTS. 098686 13-13
- THE EFFECT OF DRUGS ON HYPERACTIVITY IN CHILDREN WITH SOME OBSERVATIONS OF CHANGES IN MINERAL METABOLISM. 098894 13-14
- THE CENTRAL METABOLISM OF SEROTONIN IN THE CAT DURING INSOMNIA: A NEUROPHYSIOLOGICAL AND BIOCHEMICAL STUDY AFTER ADMINISTRATION OF P-CHLOROPHENYLALANINE OR DESTRUCTION OF THE RAPHE SYSTEM. 099261 13-03

- THE EFFECTS OF EXCITATORY AND INHIBITORY AMINO ACIDS ON THE METABOLISM OF ENDOGENOUS BRAIN AMINO ACIDS IN THE NEUROTIZED MOUSE. 099266 13-03
- THE EFFECT OF YOHIMBINE ON BRAIN SEROTONIN METABOLISM, MOTOR BEHAVIOR AND BODY TEMPERATURE OF THE RAT. 099648 13-03
- ENHANCEMENT OF METHYLDOPA METABOLISM WITH BARBITURATE. 100132 13-13
- THE METABOLISM OF TRITIATED ATROPINE IN DATURA-INNOXIA. 100169 13-03
- ACTIONS AND METABOLISM OF HEROIN ADMINISTERED BY CONTINUOUS INTRAVENOUS INFUSION TO MAN. 100417 13-13
- IMPAIRMENT OF DRUG METABOLISM BY DISULFIRAM IN MAN. 100419 13-13
- INCREASE OF ETHANOL, MEPROBAMATE AND PENTOBARBITAL METABOLISM AFTER CHRONIC ETHANOL ADMINISTRATION IN MAN AND IN RATS. 100792 13-13
- EFFECT OF PARA-METHOXYAMPHETAMINE ON CATECHOLAMINE METABOLISM IN THE MOUSE BRAIN. 101543 13-03
- METABOLISM AND ANTICONVULSANT ACTIVITY OF DIAZEPAM IN GUINEA-PIGS. 101701 13-03
- METABOLISM OF PROPRANOLOL BY RAT LIVER MICROSOMES AND ITS INHIBITION BY PHENOTHIAZINE AND TRICYCLIC ANTIDEPRESSANT DRUGS. 101703 13-03
- EFFECTS OF VARIOUS HYDRAZINES UPON THE METABOLISM OF GAMMA-AMINOBUTYRIC ACID (GABA)-1-14C BY RATS. 101704 13-03
- LACK OF EFFECT OF FOLIC ACID ADMINISTRATION ON CEREBRAL METABOLISM. 101764 13-05
- OXIDATIVE METABOLISM OF MESCALINE IN THE CENTRAL NERVOUS SYSTEM - II. OXIDATIVE DEAMINATION OF MESCALINE AND 2,3,4-TRIMETHOXY-BETA-PHENYLETHYLAMINE BY DIFFERENT MOUSE BRAIN AREA IN VITRO. 102734 13-03
- METABOLISM OF THE ANTICONVULSANT 10,11-DIHYDRO-5H-DIBENZO(A,D) CYCLOHEPTENE-5-CARBOXAMIDE - I. METABOLIC FATE OF (14C)CYHEPTAMIDE IN ANIMALS AND MAN. 102735 13-13
- METABOLISM OF DIAZEPAM AND ITS METABOLITES BY GUINEA-PIG LIVER MICROSOMES. 102806 13-03
- THE EFFECTS OF DELTA9-TETRAHYDROCANNABINOL ON THE METABOLISM OF NOREPINEPHRINE IN RAT BRAIN. 104139 13-03
- EFFECT OF ELECTROSHOCK ON 5-HT METABOLISM IN RAT BRAIN. 104140 13-03
- EFFECT OF CHRONIC ADMINISTRATION OF NICOTINE ON THE CONCENTRATIONS OF ADRENAL ENZYMES INVOLVED IN THE SYNTHESIS AND METABOLISM OF ADRENALINE. 104535 13-03
- METABOLISM OF DELTA9-TETRAHYDROCANNABINOL BY LUNG AND LIVER HOMOGENATES OF RATS TREATED WITH METHYLCHOLANTHRENE. 104765 13-03
- RETARDED DEPRESSION AND THE DOPAMINE METABOLISM. 104829 13-13
- ENDOGENOUS DEPRESSIONS WITH AND WITHOUT DISTURBANCES IN THE 5-HYDROXYTRYPTAMINE METABOLISM: A BIOCHEMICAL CLASSIFICATION. 104832 13-13
- VARIATION IN HYDROXYTRYPTAMINE METABOLISM IN THE RAT. EFFECTS ON THE NEUROCHEMICAL RESPONSE TO PHENCYCLIDINE. 105403 13-03
- EFFECT OF PYRAZOLE IN VIVO ON ALDEHYDE METABOLISM IN RAT LIVER AND BRAIN. 105709 13-03
- A COMPARATIVE STUDY ON THE METABOLISM OF 3,4-DIMETHOXYPHENYLETHYLAMINE-C14 AND MESCALINE-C14 BY RABBIT, MOUSE AND RAT BRAIN HOMOGENATES. 106527 13-03
- ADMINISTRATION OF TWO OF MORE RELATED DRUGS TO INVESTIGATE THE EFFECT OF MOLECULAR MODIFICATION AND FORMULATION ON DRUG ABSORPTION, METABOLISM AND EXCRETION. 106908 13-13
- CHLORPROMAZINE METABOLISM IN CHRONIC SCHIZOPHRENICS. 107592 13-14
- INFLUENCE OF PSYCHOTOMIMETIC SUBSTANCES ON THE ENERGETIC METABOLISM OF BRAIN MITOCHONDRIA. 107725 13-03
- STUDY WITH MESCALINE-8-C14 IN MICE: EFFECT OF AMINE OXIDASE INHIBITORS ON METABOLISM. 107959 13-03

- EFFECT OF PHENELZINE ON THE METABOLISM AND MEMBRANAL TRANSPORT OF GLUCOSE IN BRAIN. 108287 13-03
- METABOLISM OF THE PHENOTHIAZINE DRUG PERAZINE BY LIVER AND LUNG MICROSOMES FROM VARIOUS SPECIES. 108718 13-03
- INHIBITION OF DRUG METABOLISM BY LEVODOPA IN COMBINATION WITH A DOPA-DECARBOXYLASE INHIBITOR. 111618 13-13
- EFFECT OF MELIPRAMINE ON SEROTONIN METABOLISM IN THE RAT BRAIN. 111765 13-03
- EFFECT OF CHLORPROMAZINE AND PHENAMINE ON THE BASAL METABOLISM AND CONDITIONED REFLEX ACTIVITY IN RATS UNDER STRESS CONDITIONS. 113521 13-03
- SOME EFFECTS OF 4-HYDROXYBUTYRIC ACID ON BRAIN CARBOHYDRATE METABOLISM. 115043 13-03
- ETHANOL METABOLISM IN RATS TREATED WITH ETHYL-ALPHA-P-CHLOROPHENOXYISOBUTYRATE (CLOFIBRATE). 115044 13-03
- EFFECT OF REDUCED BAROMETRIC PRESSURE ON DRUG ACTION AND METABOLISM IN MICE. 118568 13-03
- DAILY RHYTHMIC VARIATION AND LIVER DRUG METABOLISM IN RATS. 120467 13-03
- L-3,4 DIHYDROXYPHENYLALANINE METABOLISM BY THE GUT IN VITRO. 120468 13-03
- STUDIES ON DEOXYRIBONUCLEIC ACID METABOLISM IN HUMAN CELLS TREATED WITH LYSERGIC ACID DIETHYLAMIDE. 120470 13-13
- CHLORPROMAZINE METABOLISM IN SHEEP. II. IN VITRO METABOLISM AND PREPARATION OF 3H-7-HYDROXYCHLORPROMAZINE. 121258 13-03
- INTRACELLULAR BINDING AND METABOLISM OF IMIPRAMINE AND IMIPRAMINE-N-OXIDE. 122577 13-03
- STUDIES ON THE METABOLISM AND PHARMACOKINETICS OF NORTRIPTYLINE AND DESMETHYLIMIPRAMINE IN MAN. 122579 13-13
- SEX DIFFERENCE IN THE METABOLISM OF HEXOBARBITAL IN THE MONGOLIAN GERBIL (MERIONES-UNGUICULATUS). 125329 13-03
- LITHIUM EFFECTS ON THE EEG AND SOMATOSENSORY EVOKED RESPONSE IN RELATION TO SODIUM METABOLISM. 125569 13-13
- METABOLITE**
- IDENTIFICATION OF 7-HYDROXYFLUPHENAZINE AS MAJOR METABOLITE OF FLUPHENAZINE-14C IN THE DOG. 084579 13-03
- BIOLOGICAL HALF-LIFE OF CHLORDIAZEPOXIDE AND ITS METABOLITE, DEMOXEPAM, IN MAN. 120828 13-13
- ALTERNATE APPLICATION OF MELLERIL SANDOZ (THIORIDAZINE) AND ITS METABOLITE INOFAL IN PSYCHIATRIC THERAPY. 126007 13-11
- METABOLITES**
- IDENTIFICATION AND QUANTITATIVE DETERMINATION OF SOME METABOLITES OF METHADONE, ISOMETHADONE AND NORMETHADONE. 077906 13-05
- THE METABOLISM OF HEXOBARBITAL IN MICE AND METHODOLOGY FOR ISOLATION AND QUANTITATION OF ITS METABOLITES IN VIVO AND IN VITRO. 082782 13-03
- USE OF HEPATIC MICROSOMES IN THE PREPARATION OF MODEL DRUG METABOLITES. 086700 13-03
- DOUBLE-BLIND STUDY ON THE CORRELATIONS OF URINARY ELIMINATION OF CATECHOLAMINES AND THEIR METABOLITES (SUPPOSED TO COME THROUGH ADRENOCHROME, NORADRENOCHROME AND DOPACHROME) WITH CLINICAL STATE OF 50 PATIENTS UNDER DIFFERENT PSYCHOPHARMACOLOGIC DRUG. 087003 13-13
- SYNTHESIS OF POSSIBLE METABOLITES OF CHLORPROMAZINE. IV. 7-HYDROXY-NOR1- AND NOR2-CHLORPROMAZINE SULFOXIDE. 094791 13-01
- UPTAKE, METABOLISM AND EXCRETION OF DESMETHYLIMIPRAMINE AND ITS METABOLITES IN THE ISOLATED PERFUSED RAT LIVER. 098616 13-03
- DETECTION OF SOME PSYCHOTHERAPEUTIC DRUGS AND THEIR METABOLITES IN URINE. 098636 13-13
- GAS CHROMATOGRAPHIC ANALYSIS OF CHLORPROMAZINE AND ITS METABOLITES FORMED BY HEPATIC MICROSOMES - I. INFLUENCE OF MAGNESIUM. 102695 13-03

## Subject Index

- IDENTIFICATION OF (-)-DELTA-9-6A,10A-TRANS-TETRAHYDROCANNABINOL AND TWO OF ITS METABOLITES IN RATS BY USE OF COMBINATION GAS CHROMATOGRAPHY MASS SPECTROMETRY AND MASS FRAGMENTOGRAPHY. 102733 13-03
- METABOLISM OF DIAZEPAM AND ITS METABOLITES BY GUINEA-PIG LIVER MICROSOMES. 102806 13-03
- RADIOASSAY OF CHLORPROMAZINE AND ITS METABOLITES IN PLASMA. 104372 13-16
- INFLUENCE OF A CHRONIC TREATMENT ON THE DISTRIBUTION OF AMITRIPTYLINE AND METABOLITES IN RABBIT BRAIN. 105708 13-03
- ANTICONVULSANT ACTIVITY AND BRAIN LEVELS OF DIAZEPAM AND ITS METABOLITES IN MICE. 107158 13-03
- ON THE URINARY EXCRETION OF NITRAZEPAM AND ITS METABOLITES. 117456 13-16
- DETERMINATION OF AMITRIPTYLINE AND METABOLITES IN VARIOUS ORGANS AFTER FATAL POISONING. 117457 13-15
- ACCUMULATION OF METABOLITES DURING CHRONIC APPLICATION OF THE NEUROLEPTIC DRUG PERAZINE TO RATS. 123268 13-03
- METABOLIZING**
- INTERACTIONS OF DELTA9-TETRAHYDROCANNABINOL WITH THE HEPATIC MICROSOMAL DRUG METABOLIZING SYSTEM. 107865 13-03
- METARAMINOL**
- THE EFFECT OF DRUGS UPON THE UPTAKE OF 5-HYDROXYTRYPTAMINE AND METARAMINOL BY HUMAN PLATELETS. 087116 13-03
- SOME BIOCHEMICAL AND PHARMACOLOGICAL ACTIONS OF (-)-ERYTHRO-META-(META-CHLOROBENZYL) 2 (1-AMINOETHYL) BENZYL ALCOHOL: A DERIVATIVE OF METARAMINOL. 101702 13-03
- EFFECT OF RESERPINE ON RELEASE OF (3H)NORADRENALINE, (3H)DOPAMINE AND (3H)METARAMINOL FROM FIELD STIMULATED RAT IRIS. 118563 13-03
- METHACHOLINE**
- BLOOD PRESSURE/PULSE RESPONSES TO INTRAVENOUS METHACHOLINE IN PSYCHIATRIC ILLNESS. 102836 13-13
- METHADONE**
- IDENTIFICATION AND QUANTITATIVE DETERMINATION OF SOME METABOLITES OF METHADONE, ISOMETHADONE AND NORMETHADONE. 077906 13-05
- METHADONE AND L-METHADYL ACETATE: USE IN MANAGEMENT OF NARCOTICS ADDICTS. 091592 13-07
- TERATOGENICITY STUDIES OF METHADONE HCl IN RATS AND RABBITS. 099696 13-05
- BEHAVIORAL EFFECTS OF MORPHINE AND METHADONE IN RHESUS MONKEYS. 101740 13-04
- EFFECTS OF METHADONE ON THE ACTION OF CATECHOLAMINES IN ISOLATED PREPARATIONS. 104328 13-03
- DEVELOPMENT OF BEHAVIORAL TOLERANCE TO MORPHINE AND METHADONE USING THE SCHEDULE CONTROLLED BEHAVIOR OF THE PIGEON. 104809 13-04
- METHAMPHETAMINE**
- EFFECTS OF METHAMPHETAMINE HYDROCHLORIDE ON IMPRINTING IN WHITE LEGHORN CHICKS. 079760 13-14
- THE EFFECT OF METHAMPHETAMINE ON THE NOREPINEPHRINE AND 5-HYDROXYTRYPTAMINE CONTENTS IN ELEVEN RAT BRAIN REGIONS. 080632 13-03
- BEHAVIORAL EFFECTS OF METHAMPHETAMINE AND ALPHA-METHYLTYROSINE IN THE RAT. 082723 13-04
- INFLUENCE OF METHAMPHETAMINE ON INCORPORATION OF GLUCOSE INTO BRAIN GLYCOGEN. 086819 13-03
- PHYSIOLOGIC, SUBJECTIVE AND BEHAVIORAL EFFECTS OF AMPHETAMINE, METHAMPHETAMINE, EPHEDRINE, PHENMETRAZINE, AND METHYLPHENIDATE IN MAN. 095003 13-13
- EFFECT OF CHRONIC METHAMPHETAMINE INTOXICATION IN RHESUS MONKEYS. 097456 13-04
- MODIFICATION BY TWO BETA-ADRENERGIC BLOCKING DRUGS OF THE EFFECTS OF METHAMPHETAMINE ON BEHAVIOR AND BRAIN METABOLISM OF MICE. 098207 13-04

## Psychopharmacology Abstracts

- METHAMPHETAMINE INDUCED INSULIN RELEASE. 099827 13-03
- STUDIES ON THE METHAMPHETAMINE STIMULATION IN MICE. 100505 13-03
- EFFECTS OF METHAMPHETAMINE AND SHOCK DURATION DURING INESCAPABLE SHOCK EXPOSURE ON SUBSEQUENT ACTIVE AND PASSIVE AVOIDANCE. 102549 13-04
- THE DIFFERENTIAL EFFECTS OF METHAMPHETAMINE UPON VISUAL EXPLORATORY BEHAVIOR AND SPONTANEOUS MOTOR ACTIVITY IN RHESUS MONKEYS (MACACA-MULATTA). 103040 13-04
- METHAMPHETAMINE EFFECTS UPON AVOIDANCE BEHAVIOR DURING LIMBIC SEIZURES IN THE CAT. 104797 13-04
- EXPERIMENTS WITH UCB-6215, A DRUG WHICH ENHANCES ACQUISITION IN RATS, ITS EFFECTS COMPARED WITH THOSE OF METHAMPHETAMINE. 107159 13-04
- ACCIDENTAL CONDITIONING WITH CHRONIC METHAMPHETAMINE INTOXICATION: IMPLICATIONS FOR A THEORY OF DRUG HABITUATION. 110187 13-04
- DETERMINATION OF THERAPEUTIC BLOOD LEVELS OF METHAMPHETAMINE AND PENTOBARBITAL BY GC. 111999 13-16
- METHAQUALONE**
- METHAQUALONE, EFFICACY AS A HYPNOTIC AND SIDE-EFFECTS. 082822 13-15
- METHAQUALONE, EFFICACY AS A HYPNOTIC AND SIDE-EFFECTS. 089327 13-15
- APNEA FOLLOWING METHAQUALONE INGESTION: REPORT OF A CASE. 102916 13-15
- AN ANALYSIS OF THE EFFECTS OF METHAQUALONE AND GLUTETHIMIDE ON SLEEP IN INSOMNIAC SUBJECTS. 105119 13-14
- METHIXENE**
- NEUTRALIZATION OF EXTRAPYRAMIDAL SIDE-EFFECTS WITH METHIXENE. 095156 13-08
- METHOD**
- A SIMPLE METHOD FOR MEASURING THE GENERAL ACTIVITY OF RATS IN BRAIN STIMULATION AND OTHER STUDIES. 087289 13-08
- A METHOD TO MEASURE INTERACTIONS OF VARIOUS AGENTS AND ETHANOL ON BEHAVIORAL PERFORMANCE IN RATS. MEDICINE. 088624 13-06
- RAPID METHOD FOR SIMULTANEOUS QUALITATIVE ASSAY OF NARCOTICS, COCAINE, QUININE AND PROPOXYPHENE IN THE URINE. 100168 13-16
- A SIMPLE QUANTITATIVE METHOD FOR THE EVALUATION OF PHYSICAL DEPENDENCE LIABILITY OF MORPHINE IN MICE. 102885 13-04
- THE CRITICAL FLICKER FUSION DURING THE ACTION OF DIFFERENT DRUGS: I. COFFEEINE AND MEPROBAMATE (INCLUDING A FULL DESCRIPTION OF THE METHOD). 104789 13-13
- ANTAGONISM OF INTRACEREBRALLY INDUCED NICOTINIC CONVULSIONS IN MICE: A METHOD FOR MEASURING THE CENTRAL ANTINICOTINIC ACTIVITY OF CNS ACTING AGENTS. 104807 13-06
- EFFECT OF HASHISH SMOKE SUBLIMATE ON HYPOTHALAMIC NORADRENALINE STUDIED BY THE FLUORESCENCE METHOD. 106486 13-03
- A METHOD FOR DETECTING INTRACELLULAR CYCLIC ADENOSINE MONOPHOSPHATE BY IMMUNOFLUORESCENCE. (UNPUBLISHED PAPER). 107113 13-06
- A SIMPLE RAPID METHOD FOR PREPARING PARALLEL MICROPIPETTE ELECTRODES. 112202 13-16
- A NEW GAS CHROMATOGRAPHIC METHOD FOR THE DEMONSTRATION OF CANNABIS INTAKE BY ANALYSIS OF BIOLOGICAL FLUIDS. 123265 13-06
- A METHOD FOR STUDYING THE INFLUENCES OF DRUGS ON LEARNING FOR FOOD REWARDS IN RATS. 125249 13-06
- EASY METHOD OF HYPNOTIC TREATMENT WITH INTRAVENOUS DIAZEPAM. 126039 13-14
- METHODOLOGIC**
- METHODOLOGIC CONSIDERATIONS OF THE EVALUATION OF HYPNOTICS IN MAN: A BIOLOGIC ASSAY OF PENTOBARBITAL AND SECOBARBITAL. 100261 13-16
- METHODOLOGICAL**
- EVALUATION OF EFFICACY OF PSYCHOTROPIC AGENTS IN SCHIZOPHRENIC POPULATIONS: METHODOLOGICAL PROCEDURES. 095536 13-08
- METHODOLOGICAL ISSUES IN EVALUATING THE EFFECTIVENESS OF AGENTS FOR TREATING ANXIOUS PATIENTS. 095539 13-10

- PSYCHOPHARMACOLOGY IN CHILDREN: PROBLEM AREAS, METHODOLOGICAL CONSIDERATIONS, AND ASSESSMENT TECHNIQUES. 095541 13-11
- THE APOMORPHINE ANTAGONISM TEST IN DOGS: EXPERIMENTAL EVIDENCE AND CRITICAL CONSIDERATIONS ON SPECIFIC METHODOLOGICAL CRITERIA. 121221 13-06
- METHODOLOGICAL DIFFICULTIES OF EVALUATING PSYCHOTROPIC DRUGS. 122945 13-17
- METHODOLOGY**
- THE METABOLISM OF HEXOBARBITAL IN MICE AND METHODOLOGY FOR ISOLATION AND QUANTITATION OF ITS METABOLITES IN VIVO AND IN VITRO. 082782 13-03
- ESTABLISHING THE EFFICACY OF PSYCHOTROPIC AGENTS: METHODOLOGY. 095535 13-17
- METHODOLOGY FOR DRUG EVALUATION IN AFFECTIVE DISORDERS: DEPRESSION. AGENTS. 095537 13-09
- METHODOLOGY FOR DRUG EVALUATION IN AFFECTIVE DISORDERS: MANIA. AGENTS. 095538 13-09
- SOME REFLECTIONS ON THE METHODOLOGY OF CLINICAL PSYCHOPHARMACOLOGICAL RESEARCH. 098734 13-16
- DRUG EFFECTS ON DISTRESS-EVOKED BEHAVIOR IN MICE: METHODOLOGY AND DRUG CLASS COMPARISONS. 104137 13-04
- METHODS**
- METHODS FOR INVESTIGATING BARBITURATE TOLERANCE. 087362 13-06
- METHODS FOR EVALUATING DRUG EFFICACY IN GERIATRIC PSYCHIATRIC DISORDERS. 095540 13-11
- USE OF EXPERIMENTAL METHODS TO DETERMINE SHIFTS IN THE STATE OF SCHIZOPHRENIC PATIENTS DURING TREATMENT. 118010 13-08
- METHOHEXITONE**
- TREATMENT OF PHOBIC ANXIETY AND PSYCHOGENIC IMPOTENCE BY SYSTEMATIC DESENSITIZATION EMPLOYING METHOHEXITONE INDUCED RELAXATION. 099320 13-10
- METHYL**
- CIS- AND TRANS-2-(3,4,5-TRIMETHOXYPHENYL)CYCLOHEXYLAMINES: N METHYL AND N,N DIMETHYL DERIVATIVES. 082764 13-01
- MATING BEHAVIOR IN THE MALE RAT TREATED WITH P-CHLOROPHENYLALANINE METHYL ESTER ALONE AND IN COMBINATION WITH PARGYLINE. 104431 13-04
- PHARMACOLOGICAL STUDIES ON NEW POTENT CENTRAL DEPRESSANTS, 8-CHLORO-6-PHENYL-4H-5-TRIAZOLOBENZODIAZEPINE (D-40TA) AND ITS 1 METHYL ANALOGUE (D-65MT). 105392 13-02
- THE INFLUENCE OF METHYL SUBSTITUTION ON THE N-DEMETHYLATION AND N-OXIDATION OF NORMETHADONE IN ANIMAL SPECIES. 106423 13-03
- KINETICS OF THE GLUCOCORTICOID MEDIATED INDUCTION OF PHENYLETHANOLAMINE N METHYL TRANSFERASE IN THE HYPOPHYSECTOMIZED RAT. 108720 13-03
- METHYLAMPHETAMINE**
- SOME NEUROLOGICAL EFFECTS OF AMPHETAMINE, METHYLAMPHETAMINE AND P-BROMOMETHYLAMPHETAMINE IN THE RAT. 074843 13-03
- CROSS-TOLERANCE BETWEEN METHYLAMPHETAMINE AND MORPHINE IN THE MOUSE. 106427 13-03
- METHYLCHOLANTHRENE**
- METABOLISM OF DELTA9-TETRAHYDROCANNABINOL BY LUNG AND LIVER HOMOGENATES OF RATS TREATED WITH METHYLCHOLANTHRENE. 104765 13-03
- METHYLDOPA**
- ENHANCEMENT OF METHYLDOPA METABOLISM WITH BARBITURATE. 100132 13-13
- BEHAVIOR AND BRAIN CONTENTS OF CATECHOLAMINES IN MICE DURING CHRONIC ADMINISTRATION OF METHYLDOPA. 107964 13-04
- EFFECTS OF METHYLDOPA ON SLEEP PATTERNS IN MAN. 112201 13-14
- METHYLPHENIDATE**
- AN ADDITIONAL OBSERVATION ON METHYLPHENIDATE IN HYPERACTIVE CHILDREN. 085408 13-15
- THE EFFECTIVENESS OF METHYLPHENIDATE HYDROCHLORIDE (RITALIN) ON LEARNING AND BEHAVIOR IN PUBLIC SCHOOL EDUCABLE MENTALLY RETARDED CHILDREN. 087272 13-14
- A POTENTIAL CLINICAL USE FOR METHYLPHENIDATE WITH TRICYCLIC ANTIDEPRESSANTS. 092932 13-09
- PHYSIOLOGIC, SUBJECTIVE AND BEHAVIORAL EFFECTS OF AMPHETAMINE, METHAMPHETAMINE, EPHEDRINE, PHENMETRAZINE, AND METHYLPHENIDATE IN MAN. 095003 13-13
- METHYLPHENIDATE HALLUCINOSIS. 095311 13-15
- DELIRE-A-DEUX IN THE COURSE OF METHYLPHENIDATE ADDICTION. 096114 13-15
- COGNITIVE STYLES IN HYPERACTIVE CHILDREN AND THE EFFECT OF METHYLPHENIDATE. 099939 13-11
- METHYLPHENIDATE: A CATALYST FOR THE TRICYCLIC ANTIDEPRESSANTS. 100880 13-13
- ATTENTION IN HYPERACTIVE CHILDREN AND THE EFFECT OF METHYLPHENIDATE (RITALIN). 101643 13-11
- METHYLPHENIDATE AND MINIMAL BRAIN DYSFUNCTION. 102141 13-17
- METHYLPHENIDATE AND THE HYPERKINETIC STATE. 103916 13-14
- THE EFFECT OF METHYLPHENIDATE ON BEHAVIOR OF THREE SCHOOL CHILDREN: A PILOT INVESTIGATION. 108231 13-11
- THE EFFECT OF METHYLPHENIDATE ON ATTENTIVE BEHAVIOR AND AUTONOMIC ACTIVITY IN HYPERACTIVE CHILDREN. 111147 13-14
- EFFECTS OF ALCOHOL AND METHYLPHENIDATE ON COMPLEX JUDGMENTS. 113919 13-13
- METHYLPHENIDATE ANTAGONISM IN MICE AS A RAPID SCREENING TEST FOR NEUROLEPTIC DRUGS. 123275 13-04
- METHYSERGIDE**
- MANIC PATIENTS IMPROVEMENT WITH METHYSERGIDE. 085406 13-07
- METHYSERGIDE AS A TREATMENT FOR MANIA. 085407 13-07
- EFFECTS OF METHYSERGIDE ON PLATELETS INCUBATED WITH RESERPINE. 109195 13-03
- BC-105 AND METHYSERGIDE (DESERIL) IN MIGRAINE PROPHYLAXIS. 117683 13-07
- METIAPINE**
- AN EVALUATION OF METIAPINE IN CHRONIC SCHIZOPHRENIA. 077913 13-08
- METIAPINE: A DOUBLE-BLIND EVALUATION IN CHRONIC SCHIZOPHRENIC PATIENTS. 117022 13-08
- METRAZOL**
- TIME DEPENDENT MEMORY DEFICITS PRODUCED BY PENTYLENETETRAZOL (METRAZOL) - THE EFFECT OF REINFORCEMENT MAGNITUDE. 102305 13-04
- MIANSERIN**
- MIANSERIN HYDROCHLORIDE: PERIPHERAL AND CENTRAL EFFECTS IN RELATION TO ANTAGONISM AGAINST 5-HYDROXYTRYPTAMINE AND TRYPTAMINE. 107160 13-03
- MICE**
- N-DEMETHYLATION OF N-14C-METHYL-CODEINE IN MORPHINE TOLERANT AND NONTOLERANT RATS AND MICE. MEDICINE. 077878 13-03
- EFFECTS OF SOME PSYCHOACTIVE DRUGS ON CONDITIONED AVOIDANCE RESPONSE IN AGGRESSIVE MICE. 077992 13-04
- STIMULUS SIGNIFICANCE AND CHLORPROMAZINE INDUCED IMPAIRMENT OF AVOIDANCE LEARNING IN MICE. 082759 13-04
- THE EFFECT OF P-CHLOROPHENYLALANINE ON OPIATE INDUCED RUNNING, ANALGESIA, TOLERANCE AND PHYSICAL DEPENDENCE IN MICE. 082781 13-04
- THE METABOLISM OF HEXOBARBITAL IN MICE AND METHODOLOGY FOR ISOLATION AND QUANTITATION OF ITS METABOLITES IN VIVO AND IN VITRO. 082782 13-03
- AMNESIC EFFECTS OF CYCLOHEXIMIDE ON TWO STRAINS OF MICE WITH DIFFERENT MEMORY CHARACTERISTICS. 082799 13-04

# Subject Index

- ALCOHOL DEPENDENCE PRODUCED IN MICE BY INHALATION OF ETHANOL: GRADING THE WITHDRAWAL REACTION. 082827 13-03
- ALCOHOL DEPENDENCE AND OPIATE DEPENDENCE: LACK OF RELATION IN MICE. 082828 13-03
- EFFECTS OF EXCESS PHENYLALANINE ON IN VITRO AND IN VIVO RNA AND PROTEIN SYNTHESIS AND POLYRIBOSOME LEVELS IN BRAINS OF MICE. 086806 13-03
- SOME RELATIONS BETWEEN TOLERANCE AND PHYSICAL DEPENDENCE TO MORPHINE IN MICE. 086809 13-04
- STIMULUS SIGNIFICANCE AND CHLORPROMAZINE EFFECTS ON THE EXPRESSION OF AVOIDANCE LEARNING IN MICE. 086900 13-04
- AMPHETAMINE TOXICITY IN GENETICALLY AGGRESSIVE AND NONAGGRESSIVE MICE. 087119 13-05
- THE PREPUTIAL GLANDS AS A SOURCE OF AGGRESSION PROMOTING ODORS IN MICE. 088571 13-04
- DOPA REVERSAL OF RESERPINE ENHANCEMENT OF AUDIOGENIC SEIZURE SUCCEPTIBILITY IN MICE. 088577 13-03
- NEONATAL ADMINISTRATION OF ANDROSTENEDIONE, TESTOSTERONE OR TESTOSTERONE PROPIONATE: EFFECTS ON OVULATION, SEXUAL RECEPTIVITY AND AGGRESSIVE BEHAVIOR IN FEMALE MICE. 088581 13-04
- ACUTE TOXICITY OF DELTA9-TETRAHYDROCANNABINOL IN RATS AND MICE. 088625 13-05
- EFFECTS OF IMIPRAMINE, DESIPRAMINE AND MONOAMINE OXIDASE INHIBITORS ON THE METABOLISM AND PSYCHOMOTOR STIMULANT ACTIONS OF D-AMPHETAMINE IN MICE. 089027 13-04
- EFFECTS OF CYCLOHEXIMIDE ON RESTRICTED BEHAVIORAL PATTERNS OF MICE. 091225 13-04
- PERSISTENCE OF DOSE RELATED BEHAVIOUR IN MICE. 093953 13-04
- COMPARISON OF PYRAZOLE AND 4-BROMOPYRAZOLE AS INHIBITORS OF ALCOHOL DEHYDROGENASES: THEIR POTENCY, TOXICITY AND DURATION OF ACTION IN MICE. 094253 13-05
- MODIFICATION BY TWO BETA-ADRENERGIC BLOCKING DRUGS OF THE EFFECTS OF METHAMPHETAMINE ON BEHAVIOR AND BRAIN METABOLISM OF MICE. 098207 13-04
- THE INFLUENCE OF ADRENOLYTIC AGENTS ON THE CATECHOLAMINE TOXIC ACTION IN MICE AND RATS. 098296 13-05
- TOLERANCE TO OPIOID NARCOTICS: TIME COURSE AND REVERSIBILITY OF PHYSICAL DEPENDENCE IN MICE. 098926 13-03
- STUDIES ON THE METHAMPHETAMINE STIMULATION IN MICE. 100505 13-03
- REACTIONS OF MALE FIGHTERS TO MALE AND FEMALE MICE, UNTREATED OR DEODORIZED. 101738 13-04
- EFFECTS OF CHRONIC ADMINISTRATION OF NICOTINE ON DRUG-INDUCED HYPNOSIS IN MICE. 102188 13-04
- A SIMPLE QUANTITATIVE METHOD FOR THE EVALUATION OF PHYSICAL DEPENDENCE LIABILITY OF MORPHINE IN MICE. 102885 13-04
- THE TOXICITY OF TWO MAO INHIBITORS COMBINED WITH 5-HTP OR L-DOPA IN ANESTHETIZED MICE. 103314 13-05
- PYRAZOLE AND ETHANOL POTENTIATION OF TRYPTOPHOL INDUCED SLEEP IN MICE. 103647 13-04
- AMOUNTS AND TURNOVER RATES OF BRAIN PROTEINS IN MORPHINE TOLERANT MICE. 104009 13-03
- EXPLORATORY BEHAVIOR IN CHRONIC DISULFOTON POISONING IN MICE. 104136 13-04
- DRUG EFFECTS ON DISTRESS-EVOKED BEHAVIOR IN MICE: METHODOLOGY AND DRUG CLASS COMPARISONS. 104137 13-04
- ON THE ROLE OF NOREPINEPHRINE IN THE ANORECTIC EFFECT OF D-AMPHETAMINE IN MICE. 104326 13-03
- PHYSOSTIGMINE AND PENTOBARBITAL: BIPHASIC INTERACTION IN MICE. 104329 13-03
- INCREASED AGGRESSION AND TOXICITY IN GROUPED MALE MICE TREATED WITH TRANQUILIZING BENZODIAZEPINES. 104380 13-05

# Psychopharmacology Abstracts

- CHOLINERGIC MECHANISMS AND AVOIDANCE BEHAVIOR ACQUISITION: EFFECTS OF NICOTINE IN MICE. 104462 13-04
- THE EFFECT OF SOME HALLUCINOGENIC AND OTHER DRUGS ON THE TEMPERATURE OF RESERPINIZED MICE. 104573 13-04
- MEASUREMENT OF PHARMACOLOGICAL DEPRESSION OF EXPLORATORY ACTIVITY IN MICE: A CONTRIBUTION TO THE PROBLEM OF TIME ECONOMY AND SENSITIVITY. 104704 13-06
- EFFECTS OF SOME ANTICHOLINERGIC DRUGS ON WATER MAZE LEARNED BEHAVIOUR IN MICE. 104794 13-04
- FURTHER ASPECTS OF THE EXPLORATORY BEHAVIOUR IN AGGRESSIVE MICE. 104803 13-04
- ANTAGONISM OF INTRACEREBRALLY INDUCED NICOTINIC CONVULSIONS IN MICE: A METHOD FOR MEASURING THE CENTRAL ANTINICOTINIC ACTIVITY OF CNS ACTING AGENTS. 104807 13-06
- LYSERGIC ACID DIETHYLAMIDE, AMPHETAMINE AND CHLORPROMAZINE ON WATER MAZE DISCRIMINATION IN MICE. 104812 13-04
- ACTIVITY OF MAJOR ANALGESICS ON MOTOR NOCICEPTIVE RESPONSES IN DECEREBRATE MICE. 105010 13-03
- REVERSAL BY SOTALOL OF THE RESPIRATORY DEPRESSION INDUCED IN MICE BY ETHANOL. 105406 13-03
- BEHAVIOUR OF UNTREATED MICE TO ALCOHOL OR CHLORDIAZEPOXIDE TREATED PARTNERS. 105996 13-04
- DIURNAL VARIATION OF HEPATIC AMPHETAMINE CONCENTRATIONS IN MICE FED FREELY AND FED SINGLE DAILY MEALS. 106425 13-03
- PHARMACOKINETICS OF DIAZEPAM IN DOGS, MICE AND HUMANS. 106616 13-13
- EFFECTS OF PUROMYCIN ON RETENTION OF INSTRUMENTAL TRAINING OF MICE. 106685 13-04
- INCREASED TOXICITY OF MORPHINE-LIKE ANALGESICS IN AGGREGATED MICE. 106845 13-05
- ANTICONVULSANT ACTIVITY AND BRAIN LEVELS OF DIAZEPAM AND ITS METABOLITES IN MICE. 107158 13-03
- EFFECT OF DIPHENYHYDANTOIN ON HEXOBARBITAL SLEEP TIME IN MICE AND RATS. 107944 13-03
- ANTICONVULSANT EFFECT OF TRIMETHADIONE IN MICE DURING CONTINUED TREATMENT VIA THE DRINKING WATER. 107945 13-03
- STUDY WITH Mescaline-8-C14 IN MICE: EFFECT OF AMINE OXIDASE INHIBITORS ON METABOLISM. 107959 13-03
- BEHAVIOR AND BRAIN CONTENTS OF CATECHOLAMINES IN MICE DURING CHRONIC ADMINISTRATION OF METHYLDOPA. 107964 13-04
- THE EFFECTS OF SOME HALLUCINOGENS ON AGGRESSIVENESS OF MICE AND RATS, PART I. 108032 13-04
- ACTION OF VARIOUS CENTRALLY ACTING AGENTS IN MICE WITH UNILATERAL. 108731 13-03
- ROLE OF CENTRAL SEROTONINERGIC PROCESSES IN DEVELOPMENT OF HEAD TWITCHES IN MICE AND RATS UNDER THE INFLUENCE OF TRYPTOPHAN. 109920 13-02
- EFFECT OF LITHIUM ON SEROTONIN LEVEL IN THE BRAIN OF WHITE MICE. 111294 13-03
- RELATIONSHIP BETWEEN DEPLETION OF NOREPINEPHRINE IN THE BRAIN AND THE HYPOTHERMIC EFFECT OF APOMORPHINE IN MICE. 113523 13-03
- EFFECT OF REDUCED BAROMETRIC PRESSURE ON DRUG ACTION AND METABOLISM IN MICE. 118568 13-03
- PHYSICAL PERFORMANCE OF MICE TREATED WITH PROPRANOLOL, SOTALOL AND INPEA. 120818 13-04
- POTENTIATION OF BARBITAL NARCOSIS IN MICE BY CHOLINOMIMETICS AND CHOLINESTERASE BLOCKERS. 122047 13-03
- THE INFLUENCE OF ANTIPARKINSON AGENTS UPON SUBNARCOTIC AND CHOLINERGIC POTENTIATION OF BARBITAL IN MICE. 122048 13-03
- METHYLPHENIDATE ANTAGONISM IN MICE AS A RAPID SCREENING TEST FOR NEUROLEPTIC DRUGS. 123275 13-04

- EFFECTS OF ANTIHISTAMINES ON ISOLATION INDUCED FIGHTING IN MICE. 125247 13-04
- MICROAUTORADIOGRAPHIC**  
THE INCORPORATION OF (3H)URIDINE MONOPHOSPHATE INTO THE RAT BRAIN DURING THE TRAINING PERIOD. A MICROAUTORADIOGRAPHIC STUDY. 086805 13-03
- MICROCIRCULATION**  
EFFECTS OF PSYCHOACTIVE AGENTS ON THE CONDITIONING OF THE MICROCIRCULATION IN THE RAT. 101959 13-03
- MICROGRAM**  
FRACTIONATION OF GOLDFISH BRAIN AMINOACYL TRANSFER RNA AT THE MICROGRAM LEVEL. 087125 13-06
- MICROIONTOPHORETIC**  
MICROIONTOPHORETIC RELEASE OF NOREPINEPHRINE FROM MICROPIPETTES. 082862 13-06
- EFFECTS OF MICROIONTOPHORETIC APPLICATION OF IMIPRAMINE ON SINGLE NEURONES IN THE BRAIN STEM. 107962 13-03
- MICROPIPETTE**  
A SIMPLE RAPID METHOD FOR PREPARING PARALLEL MICROPIPETTE ELECTRODES. 112202 13-16
- MICROPIPETTES**  
MICROIONTOPHORETIC RELEASE OF NOREPINEPHRINE FROM MICROPIPETTES. 082862 13-06
- MICROSCOPIC**  
FLUORESCENCE MICROSCOPIC STUDY ON RAT BRAIN NEURONS AFFECTED BY HARMALINE ADMINISTRATION. 087212 13-03
- MICROSOMAL**  
FATTY ACIDS OF LIVER MITOCHONDRIAL AND MICROSOMAL LIPIDS IN THE RAT EXPOSED TO PHENOTHIAZINE DERIVATIVES. 102805 13-03
- INTERACTIONS OF DELTA9-TETRAHYDROCANNABINOL WITH THE HEPATIC MICROSOMAL DRUG METABOLIZING SYSTEM. 107865 13-03
- RAT STRAIN DIFFERENCES IN THE ACTIVITY OF HEPATIC MICROSOMAL ENZYMES. 118564 13-03
- INTERACTION OF IMIPRAMINE, DESMETHYLIMIPRAMINE, NORTRIPTYLINE, AND 1-NAPHTHOL WITH MICROSOMAL PREPARATIONS. 122576 13-03
- HYDROXYLATION OF TRANS-DELTA1-TETRAHYDROCANNABINOL BY A HEPATIC MICROSOMAL MONOOXYGENASE. 122580 13-03
- MICROSOMES**  
USE OF HEPATIC MICROSOMES IN THE PREPARATION OF MODEL DRUG METABOLITES. 086700 13-03
- METABOLISM OF PROPRANOLOL BY RAT LIVER MICROSOMES AND ITS INHIBITION BY PHENOTHIAZINE AND TRICYCLIC ANTIDEPRESSANT DRUGS. 101703 13-03
- GAS CHROMATOGRAPHIC ANALYSIS OF CHLORPROMAZINE AND ITS METABOLITES FORMED BY HEPATIC MICROSOMES - I. INFLUENCE OF MAGNESIUM. 102695 13-03
- METABOLISM OF DIAZEPAM AND ITS METABOLITES BY GUINEA-PIG LIVER MICROSOMES. 102806 13-03
- N-DEMETHYLATION AND N-OXIDATION OF IMIPRAMINE BY RAT AND PIG LIVER MICROSOMES. 108290 13-03
- METABOLISM OF THE PHENOTHIAZINE DRUG PERAZINE BY LIVER AND LUNG MICROSOMES FROM VARIOUS SPECIES. 108718 13-03
- MICROTUS-PENNSYLVANICUS**  
EFFECTS OF ACTH ON VOLES (MICROTUS-PENNSYLVANICUS) RELATED TO REPRODUCTIVE FUNCTION AND RENAL DISEASE. 089016 13-03
- MIDBRAIN**  
ACTIVATION OF BRAIN SEROTONIN METABOLISM BY HEAT: ROLE OF MIDBRAIN RAPHE NEURONS. 092374 13-03
- EFFECTS OF HALOPERIDOL, TRIFLUOPERIDOL, NITRAZEPAM AND CHLORDIAZEPoxide UPON CONDITIONED MIDBRAIN BEHAVIORAL RESPONSES. 106394 13-04
- MIDDLE-AGED**  
THE USE OF PSYCHOTHERAPEUTIC DRUGS BY MIDDLE-AGED WOMEN. 108270 13-17

- MIGRAINE**  
BC-105 AND METHYSERGIDE (DESERIL) IN MIGRAINE PROPHYLAXIS. 117683 13-07
- MILK**  
DICHLORALPHENAZONE AND BREAST MILK. 107872 13-17
- MIND**  
THE CHEMISTRY OF MIND. 096332 13-13
- MINERAL**  
THE EFFECT OF DRUGS ON HYPERACTIVITY IN CHILDREN WITH SOME OBSERVATIONS OF CHANGES IN MINERAL METABOLISM. 098894 13-14
- MINIMAL**  
METHYLPHENIDATE AND MINIMAL BRAIN DYSFUNCTION. 102141 13-17
- MINIMAL CEREBRAL DYSFUNCTION. 106602 13-11
- THE EFFECT OF STIMULANT DRUGS ON HUMAN FIGURE DRAWINGS IN CHILDREN WITH MINIMAL BRAIN DYSFUNCTION. 125254 13-14
- MINOR**  
MINOR TRANQUILIZERS, STRESS AND CENTRAL CATECHOLAMINE NEURONS. 086808 13-03
- EVALUATION OF A RAPID TECHNIQUE FOR DETECTING MINOR TRANQUILIZERS. 100214 13-06
- DRUG, DOCTOR WARMTH, AND CLINIC SETTING IN THE SYMPTOMATIC RESPONSE TO MINOR TRANQUILIZERS. 104143 13-10
- RELAXATION TRANSFER IN ELECTRODERMAL ACTIVITY AS AFFECTED BY A NEW MINOR TRANQUILIZER (4306CB). 105006 13-14
- PHARMACOLOGY OF NEW MINOR TRANQUILIZERS, BENZODIAZEPINOKAZOLE DERIVATIVES. 116385 13-02
- EFFECT OF 7-BROMO-5-(2-PYRIDYL-3H-1,4 BENZODIAZEPINONE, BROMAZEPAM (RO-5-3350), A NEW MINOR TRANQUILIZER, ON PSYCHONEUROSIS WITH SPECIAL REFERENCE TO THE OBSESSIVE-COMPULSIVE SYMPTOMS. 118969 13-10
- JUDGMENT OF THE EFFECTS OF MINOR TRANQUILIZERS. 123048 13-17
- MITOCHONDRIA**  
EFFECT OF DELTA1-TETRAHYDROCANNABINOL ON ATPASE ACTIVITY OF RAT LIVER MITOCHONDRIA. 077870 13-03
- THE EFFECTS OF PSYCHOACTIVE AGENTS ON CALCIUM UPTAKE BY PREPARATIONS OF RAT BRAIN MITOCHONDRIA. 101847 13-03
- INFLUENCE OF PSYCHOTOMIMETIC SUBSTANCES ON THE ENERGETIC METABOLISM OF BRAIN MITOCHONDRIA. 107725 13-03
- EFFECTS OF CHLORDIAZEPoxide AND DIAZEPAM ON RESPIRATION AND OXIDATIVE PHOSPHORYLATION IN RAT BRAIN MITOCHONDRIA. 108284 13-03
- EFFECT OF MORPHINE ON PROTEIN SYNTHESIS IN SYNAPTOSOMES AND MITOCHONDRIA OF MOUSE BRAIN. 123273 13-03
- MITOCHONDRIAL**  
FATTY ACIDS OF LIVER MITOCHONDRIAL AND MICROSOMAL LIPIDS IN THE RAT EXPOSED TO PHENOTHIAZINE DERIVATIVES. 102805 13-03
- EFFECT OF MONOAMINE OXIDASE INHIBITORS ON QUALITATIVE ALTERATIONS IN ENZYMIC PROPERTIES OF MITOCHONDRIAL MONOAMINE OXIDASES. 118566 13-03
- MITOTIC**  
LITHIUM, CHROMOSOMES, AND MITOTIC INDEX. 086926 13-15
- LITHIUM AND MITOTIC INDEX. 109234 13-15
- MIXED**  
A PSYCHODERMATOLOGICAL STUDY OF A COMBINATION OF TWO COMPOUNDS RESULTING IN A MIXED REACTION, ANTIDEPRESSIVE AND TRANQUILIZING (AMITRIPTYLINE - PERPHENAZINE). 121753 13-07
- MIXTURES**  
AMPHETAMINE BARBITURATE MIXTURES: LEARNING AND RETENTION IN RATS. 086771 13-04
- OPTICAL ACTIVITY OF LSD DNA MIXTURES. 101769 13-03
- THE CHROMATOGRAPHIC SEPARATION OF MIXTURES OF BENZODIAZEPINE DRUGS. 115898 13-06

# Subject Index

# Psychopharmacology Abstracts

- FACILITATING EFFECTS OF SOME CHLORPROMAZINE D-AMPHETAMINE MIXTURES ON AVOIDANCE LEARNING.** 124107 13-04
- MODE**  
ON THE MODE OF ACTION OF RESERPINE ON DOPAMINE METABOLISM IN THE RAT STRIATUM. 083162 13-03  
MODE OF ACTION OF D-PENICILLAMINE IN CHRONIC SCHIZOPHRENIA. 095150 13-08
- MODEL**  
USE OF HEPATIC MICROSOMES IN THE PREPARATION OF MODEL DRUG METABOLITES. 086700 13-03  
BEHAVIORAL TOLERANCE OF SQUIRREL MONKEYS TO HYPOXIA: A MODEL FOR EVALUATING DRUG THERAPY. 091102 13-06  
SEX DIFFERENCES IN THE USE OF MOOD MODIFYING DRUGS: AN EXPLANATORY MODEL. 100851 13-14  
DRUGS, PHYSICIANS AND THE MEDICAL MODEL. 102448 13-17  
DRUG-INDUCED DYSKINESIA IN MONKEYS: A PHARMACOLOGIC MODEL EMPLOYING 6-HYDROXYDOPAMINE. (UNPUBLISHED PAPER). 105426 13-03  
ADRENERGIC EFFECT OF CHRONIC ADMINISTRATION OF NEUROLEPTICS AND ANTIDEPRESSANTS ON A MODEL OF APOMORPHINE INDUCED STEREOTYPY. 111135 13-04  
A WORKING MODEL OF CLINICAL RESEARCH IN PRIVATE PRACTICE. 121476 13-11
- MODELS**  
THE INFLUENCE OF PSYCHOPHARMACOLOGICALLY ACTIVE SUBSTANCES ON VARIOUS MODELS OF AN INFLAMMATORY REACTION. 118201 13-05
- MODIFICATION**  
MODIFICATION BY PSYCHOTROPIC DRUGS OF THE CYCLIC ADENOSINE MONOPHOSPHATE RESPONSE TO NOREPINEPHRINE IN RAT BRAIN. 082864 13-03  
CHOLINERGIC AND NEUROLEPTIC INDUCED CATALEPSY: MODIFICATION BY LESIONS IN THE CAUDATE PUTAMEN. 086899 13-03  
MODIFICATION BY A TRICYCLIC SERIES OF COMPOUNDS OF THE NORADRENALINE EFFECT ON THE CAT NICITATING MEMBRANE. 089326 13-03  
MODIFICATION BY TWO BETA-ADRENERGIC BLOCKING DRUGS OF THE EFFECTS OF METHAMPHETAMINE ON BEHAVIOR AND BRAIN METABOLISM OF MICE. 098207 13-04  
MODIFICATION OF CONFLICT BEHAVIOR BY PRIOR EXPERIENCE: EFFECTS OF SCHEDULING AND PENTOBARBITAL. 103652 13-04  
MODIFICATION OF CONFLICT BEHAVIOR BY PRIOR EXPERIENCE: EFFECTS OF TRAINING AND MORPHINE. 104325 13-04  
MODIFICATION OF DEPRESSIVE EPISODES DURING PROPHYLACTIC ADMINISTRATION OF LITHIUM SALTS. 105831 13-09  
ADMINISTRATION OF TWO OF MORE RELATED DRUGS TO INVESTIGATE THE EFFECT OF MOLECULAR MODIFICATION AND FORMULATION ON DRUG ABSORPTION, METABOLISM AND EXCRETION. 106908 13-13  
MODIFICATION OF THE ANTINOCICEPTIVE ACTIVITY OF MORPHINE BY CENTRALLY ADMINISTERED QUABAIN AND DOPAMINE. 110188 13-03  
MODIFICATION OF AN OPERANT CONDITIONING IN RAT AFTER A SUBCUTANEOUS INJECTION OF HISTAMINE. 119914 13-04  
EFFECTS OF CHLORPROMAZINE, DL-PROPRANOLOL, AND D-PROPRANOLOL IN THE ISOLATED RAT HEART: MODIFICATION OF THE RESPONSE TO ISOPRENALINE AND GLUCAGON. 120719 13-03  
CHOLINERGIC AND NEUROLEPTIC INDUCED CATALEPSY: MODIFICATION BY LESIONS IN THE GLOBUS-PALLIDUS AND SUBSTANTIA-NIGRA. 122542 13-03
- MODIFICATIONS**  
MODIFICATIONS OF THE ALARM PATTERN BY NICOTINE. 086902 13-04
- MODIFIED**  
DIAZEPAM MODIFIED ELECTROCONVULSIVE THERAPY. 090499 13-07  
THE INFLUENCE OF PHENELZINE ON THE TOXICITY OF CHOLINERGIC DRUGS MODIFIED BY RESERPINE. 098294 13-05
- MODIFY**  
LEARNING IMPAIRMENT AFTER THREE CLASSES OF AGENTS WHICH MODIFY CHOLINERGIC FUNCTION. 106523 13-04
- MODIFYING**  
SEX DIFFERENCES IN THE USE OF MOOD MODIFYING DRUGS: AN EXPLANATORY MODEL. 100851 13-14
- MODULATION**  
ADRENERGIC CHOLINERGIC INVOLVEMENT IN MODULATION OF LEARNED BEHAVIOR. 086423 13-04
- MOLECULAR**  
ADMINISTRATION OF TWO OF MORE RELATED DRUGS TO INVESTIGATE THE EFFECT OF MOLECULAR MODIFICATION AND FORMULATION ON DRUG ABSORPTION, METABOLISM AND EXCRETION. 106908 13-13
- MOLIDONE**  
COMPARISON OF MOLIDONE AND PLACEBO IN ANXIOUS DEPRESSED PATIENTS. 086897 13-10  
A DOUBLE-BLIND COMPARISON OF MOLIDONE AND TRIFLUOPERAZINE IN THE TREATMENT OF ACUTE SCHIZOPHRENIA. 087033 13-08
- MOLINDONE**  
STUDY OF MOLINDONE IN DISTURBED PRESCHOOL CHILDREN. 074814 13-08  
A CLINICAL COMPARISON OF MOLINDONE HYDROCHLORIDE WITH TRIFLUOPERAZINE IN PSYCHOTIC OUTPATIENTS. 078941 13-08  
DIGITAL COMPUTER ANALYZED RESTING AND SLEEP EEG INVESTIGATIONS AND CLINICAL CHANGES DURING MOLINDONE TREATMENT. 107244 13-08
- MONGOL**  
EFFECTS OF 5-HTP ON SLEEP IN MONGOL CHILDREN: PRELIMINARY RESULTS. 098880 13-14
- MONGOLIAN**  
SEX DIFFERENCE IN THE METABOLISM OF HEXOBARBITAL IN THE MONGOLIAN GERBIL (MERIONES-UNGUICULATUS). 125329 13-03
- MONGREL**  
CARDIOVASCULAR EFFECTS OF CHRONIC RESERPINE ADMINISTRATION IN MONGREL DOGS. 125650 13-03
- MONITORING**  
VALUE OF PLASMA LITHIUM MONITORING. 077708 13-13  
DRUG MONITORING IN A PSYCHIATRIC UNIT. 099312 13-16
- MONKEY**  
EFFECTS OF TWO TETRAHYDROCANNABINOLS AND OF PENTOBARBITAL ON CORTICO-CORTICAL EVOKED RESPONSES IN THE SQUIRREL MONKEY. 082720 13-03  
THE FATE OF 2,5 DIMETHOXY-4-METHYLAMPHETAMINE (STP,DOM) IN MONKEY AND RAT BRAINS. 086148 13-03  
BIOLOGICAL DISPOSITION AND METABOLIC FATE OF FLUPHENAZINE-14C IN THE DOG AND RHESUS MONKEY. 086580 13-03  
PHARMACOLOGICAL COMPARISON OF PROSTAGLANDIN-F-2-ALPHA, SEROTONIN AND NOREPINEPHRINE ON CEREBROVASCULAR TONE OF MONKEY. 099653 13-03  
THE EFFECTS OF A MARIJUANA EXTRACT ON THE GENERAL MOTOR ACTIVITY OF THE SQUIRREL MONKEY. 105077 13-04  
AUTORADIOGRAPHIC STUDY OF THE FATE OF DIAZEPAM-C14 IN THE MONKEY BRAIN. 106147 13-03  
APPETITE SUPPRESSION AND CENTRAL NERVOUS SYSTEM STIMULATION IN THE RHESUS MONKEY. 110185 13-04  
PSYCHOMOTOR STIMULANT SELF-ADMINISTRATION AS A FUNCTION OF DOSAGE PER INJECTION IN THE RHESUS MONKEY. 111146 13-04
- MONKEYS**  
NALORPHINE INDUCED CHANGES IN MORPHINE SELF-ADMINISTRATION IN RHESUS MONKEYS. 082719 13-04  
FACTORS AFFECTING BEHAVIOR MAINTAINED BY RESPONSE CONTINGENT INTRAVENOUS INFUSIONS OF AMPHETAMINE IN SQUIRREL MONKEYS. 089060 13-04  
BEHAVIORAL TOLERANCE OF SQUIRREL MONKEYS TO HYPOXIA: A MODEL FOR EVALUATING DRUG THERAPY. 091102 13-06  
EFFECT OF CHRONIC METHAMPHETAMINE INTOXICATION IN RHESUS MONKEYS. 097456 13-04

- IMPAIRMENT OF RECENT MEMORY BY MARIHUANA AND THC IN RHESUS MONKEYS. 099677 13-04
- BEHAVIORAL EFFECTS OF MORPHINE AND METHADONE IN RHESUS MONKEYS. 101740 13-04
- SOCIAL BEHAVIOR OF MONKEYS SELECTIVELY DEPLETED OF MONOAMINES. 101934 13-04
- EFFECTS OF AMPHETAMINE AND CHLORPROMAZINE ON SECOND-ORDER ESCAPE BEHAVIOR IN SQUIRREL MONKEYS. 102189 13-04
- THE DIFFERENTIAL EFFECTS OF METHAMPHETAMINE UPON VISUAL EXPLORATORY BEHAVIOR AND SPONTANEOUS MOTOR ACTIVITY IN RHESUS MONKEYS (MACACA-MULATTA). 103040 13-04
- WHOLE-BODY AND REGIONAL BRAIN DISTRIBUTION OF DIAZEPAM IN NEWBORN RHESUS MONKEYS. 103651 13-03
- DRUG-INDUCED DYSKINESIA IN MONKEYS: A PHARMACOLOGIC MODEL EMPLOYING 6-HYDROXYDOPAMINE. (UNPUBLISHED PAPER). 105426 13-03
- BRAIN EXCITABILITY AND BEHAVIORAL REACTIVITY IN MONKEYS UNDER MEPROBAMATE. 106145 13-04
- EFFECTS OF RESERPINE ON THE SOCIAL BEHAVIOR OF RHESUS MONKEYS. 108699 13-04
- TOXIC EFFECT OF LSD-25 ON A CULTURE OF KIDNEY CELLS FROM CERCOPITHECUS-AETHIOPS MONKEYS. 125418 13-05
- MONOAMINE**
- SEROTONIN ACCUMULATION AFTER MONOAMINE OXIDASE INHIBITION. 082792 13-03
- EFFECTS OF MONOAMINE OXIDASE INHIBITORS AND RESERPINE ON BRAIN AMINES IN ALTITUDE EXPOSED RATS. 085727 13-13
- THE EFFECTS OF PERIPHERALLY ADMINISTERED 6-HYDROXYDOPAMINE ON RAT BRAIN MONOAMINE TURNOVER. 086810 13-03
- STUDIES IN VIVO ON THE RELATIONSHIP BETWEEN BRAIN TRYPTOPHAN, BRAIN 5-HT SYNTHESIS AND HYPERACTIVITY IN RATS TREATED WITH A MONOAMINE OXIDASE INHIBITOR AND L-TRYPTOPHAN. 087124 13-03
- EFFECT OF TRICYCLIC ANTIDEPRESSANTS ON MONOAMINE RESPONSES OF SINGLE CORTICAL NEURONES. 087359 13-03
- EFFECTS OF IMIPRAMINE, DESIPRAMINE AND MONOAMINE OXIDASE INHIBITORS ON THE METABOLISM AND PSYCHOMOTOR STIMULANT ACTIONS OF D-AMPHETAMINE IN MICE. 089027 13-04
- ACTION OF FENFLURAMINE ON MONOAMINE STORES OF RAT TISSUES. 089048 13-03
- THE HAZARDS OF USE OF MONOAMINE OXIDASE INHIBITORS IN DISTURBED ADOLESCENTS. 089080 13-15
- TRICYCLIC ANTIDEPRESSANTS AND MONOAMINE OXIDASE INHIBITORS. 095945 13-09
- MONOAMINE OXIDASE INHIBITORS. 099170 13-15
- CATECHOL-O-METHYLTRANSFERASE AND MONOAMINE OXIDASE ACTIVITIES IN RAT SUBMAXILLARY GLAND: EFFECTS OF LIGATION, SYMPHACTOMY AND SOME DRUGS. 099645 13-03
- EFFECT OF SODIUM NITRITE ON MONOAMINE OXIDASE ACTIVITY IN RAT LIVER AND BRAIN. 100100 13-03
- MONOAMINE PRECURSORS IN THE TREATMENT OF DEPRESSION. 100439 13-07
- ANXIETY STATE OR MASKED DEPRESSION? A STUDY BASED ON THE ACTION OF MONOAMINE OXIDASE INHIBITORS. 100791 13-10
- EFFECT OF THIAZOL-4-YLMETHOXYAMINE, A NEW INHIBITOR OF HISTAMINE BIOSYNTHESIS ON BRAIN HISTAMINE, MONOAMINE LEVELS AND BEHAVIOR. 101541 13-03
- TREATMENT OF INTRACTABLE NARCOLEPSY WITH A MONOAMINE OXIDASE INHIBITOR. 103248 13-14
- THE ROLE OF BRAIN NOREPINEPHRINE IN THE ANOREXIC EFFECTS OF DEXTROAMPHETAMINE AND MONOAMINE OXIDASE INHIBITORS IN THE RAT. 104574 13-03
- PLASMA MONOAMINE OXIDASE ACTIVITY IN REGULARLY MENSTRUATING WOMEN AND IN AMENORRHEIC WOMEN RECEIVING CYCLIC TREATMENT WITH ESTROGENS AND A PROGESTIN. 104616 13-13
- THE ACUTE EFFECTS OF ESTROGEN AND PROGESTERONE ON THE MONOAMINE LEVELS OF THE BRAIN OF OVARECTOMIZED RATS. 104790 13-03
- 1,3-BIS 4-(P-METHOXYPHENYL)PIPERAZINYL-2-PROPANOL (RO-8-2580): A NEW MONOAMINE DEPLETOR. 105408 13-02
- MONOAMINE OXIDASE: AN APPROXIMATION OF TURNOVER RATES. 105950 13-03
- MONOAMINE OXIDASE IN SYMPATHETIC NERVES. A TRANSMITTER SPECIFIC ENZYME TYPE. 108792 13-03
- INHIBITORY EFFECT OF CHLORPROMAZINE ON THE SYNDROME OF HYPERACTIVITY PRODUCED BY L-TRYPTOPHAN OR 5-METHOXY-N,N-DIMETHYLTRYPTAMINE TREATED WITH A MONOAMINE OXIDASE INHIBITOR. 108795 13-03
- EFFECT OF MONOAMINE OXIDASE INHIBITORS ON QUALITATIVE ALTERATIONS IN ENZYMATIC PROPERTIES OF MITOCHONDRIAL MONOAMINE OXIDASES. 118566 13-03
- EFFECT OF THE MONOAMINE OXIDASE INHIBITOR PARGYLINE ON THE UPTAKE OF LABELLED NORADRENALINE BY THE CATS SPLEEN. 120413 13-03
- POTENTIATION OF THE CARDIOVASCULAR EFFECTS OF SOME CATECHOLAMINES BY A MONOAMINE OXIDASE INHIBITOR. 120417 13-13
- INTERACTIONS BETWEEN CATECHOLAMINES AND TRICYCLIC AND MONOAMINE OXIDASE INHIBITOR ANTIDEPRESSIVE AGENTS IN MAN. 120418 13-13
- BEHAVIOURAL EFFECT OF AMANTADINE IN RATS AFTER INHIBITION OF MONOAMINE SYNTHESIS, STORAGE AND RECEPTOR INTERACTION. 123277 13-03
- A COMPARISON OF FG-5310, A NEW SELECTIVE MONOAMINE OXIDASE INHIBITOR, AND OTHER MAO INHIBITORS ON THE BLOOD PRESSURE RESPONSE TO TYRAMINE. 123287 13-03
- MONOAMINES**
- AMYTROPHIC LATERAL SCLEROSIS: METABOLISM OF CENTRAL MONOAMINES AND TREATMENT WITH L-DOPA (UNPUBLISHED PAPER). 093081 13-13
- SOCIAL BEHAVIOR OF MONKEYS SELECTIVELY DEPLETED OF MONOAMINES. 101934 13-04
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN: IV. ANTIANDRENERGIC ACTION AND INFLUENCE ON BRAIN MONOAMINES. 105841 13-03
- RELATIONSHIP BETWEEN BRAIN MONOAMINES AND SEIZURE SUSCEPTIBILITY. (PH.D.DISSERTATION). 109145 13-13
- ROLE OF BRAIN MONOAMINES IN THE FATAL HYPERTHERMIA INDUCED BY PETHIDINE OR IMIPRAMINE IN RABBITS PRETREATED WITH PARGYLINE. 109197 13-03
- MONOAMINES AND OVARIAN HORMONE LINKED SEXUAL AND EMOTIONAL CHANGES: A REVIEW. 110462 13-17
- COMPARISON OF DOSE DEPENDENT DEPLETION OF SOME MONOAMINES IN RAT BRAINS BY MEANS OF RESERPINE AND OXYPERTINE. 126103 13-03
- MONOCHLORIMIPRAMINE**
- SLEEP APNEA AND SLEEP REGULATING MECHANISM: A CASE EFFECTIVELY TREATED WITH MONOCHLORIMIPRAMINE. 111589 13-13
- MONOIODODINSULIN**
- MONOIODODINSULIN: DEMONSTRATION OF ITS BIOLOGICAL ACTIVITY (UNPUBLISHED PAPER). 092898 13-06
- MONOMETHIODIDE**
- EFFECTS OF NICOTINE, NICOTINE MONOMETHIODIDE, LOBELINE, CHLORDIAZEPOXIDE, MEPROBAMATE AND CAFFEINE ON A DISCRIMINATION TASK IN LABORATORY RATS. 104433 13-04
- MONOMETHYL**
- EFFECT OF DIMETHYL AND MONOMETHYL TRICYCLIC ANTIDEPRESSANTS ON CENTRAL 5-HYDROXYTRYPTAMINE PROCESSES IN THE FROG. 106426 13-03
- MONOOXYGENASE**
- HYDROXYLATION OF TRANS-DELTA1-TETRAHYDROCANNABINOL BY A HEPATIC MICROSOMAL MONOOXYGENASE. 122580 13-03
- MONOPHOSPHATE**
- MODIFICATION BY PSYCHOTROPIC DRUGS OF THE CYCLIC ADENOSINE MONOPHOSPHATE RESPONSE TO NOREPINEPHRINE IN RAT BRAIN. 082864 13-03

## Subject Index

- THE INCORPORATION OF (3H)URIDINE MONOPHOSPHATE INTO THE RAT BRAIN DURING THE TRAINING PERIOD. A MICROAUTORADIOGRAPHIC STUDY. 086805 13-03
- NEUROENDOCRINE CONTROL OF THE ADENOSINE 3,5 - MONOPHOSPHATE SYSTEM OF BRAIN AND PINEAL GLAND. (UNPUBLISHED PAPER). 099967 13-03
- EFFECT OF NOREPINEPHRINE ON THE CONCENTRATION OF ADENOSINE 3,5 MONOPHOSPHATE OF RAT PINEAL GLAND IN ORGAN CULTURE. (UNPUBLISHED PAPER). 106059 13-03
- PSYCHOPHARMACOLOGICAL AGENTS AND THE ADENOSINE 3,5 MONOPHOSPHATE SYSTEM OF RAT BRAIN. (UNPUBLISHED PAPER). 106060 13-03
- A METHOD FOR DETECTING INTRACELLULAR CYCLIC ADENOSINE MONOPHOSPHATE BY IMMUNOFLOUORESCENCE. (UNPUBLISHED PAPER). 107113 13-06
- EFFECTS OF PHENOTHIAZINE TRANQUILIZERS ON THE CYCLIC 3,5 ADENOSINE MONOPHOSPHATE SYSTEM OF RAT BRAIN. 107123 13-03
- STUDIES ON THE FUNCTIONAL ROLE OF ADENOSINE 3,5 MONOPHOSPHATE, HISTAMINE, AND PROSTAGLANDIN E1 IN THE CENTRAL NERVOUS SYSTEM. 120949 13-14
- MONOSYNAPTIC**
- EFFECTS OF SOME NARCOTIC ANALGESICS AND RELATED COMPOUNDS UPON THE EXTENSOR MONOSYNAPTIC REFLEX INHIBITION FROM CUTANEOUS NERVE AND HIGH THRESHOLD MUSCLE AFFERENTS. 125324 13-03
- EFFECTS OF SOME NARCOTIC ANALGESICS UPON THE MONOSYNAPTIC REFLEX INHIBITION FROM MUSCULAR AND CUTANEOUS AFFERENTS IN SPINAL CORD OF THE CAT. 125327 13-03
- MONOXIDE**
- LOW LEVEL CARBON MONOXIDE EXPOSURE AND HUMAN PSYCHOMOTOR PERFORMANCE. 078163 13-14
- MOOD**
- PEDIATRIC PRACTICE: WHOSE MOOD ARE WE ALTERING? 087270 13-14
- SEX DIFFERENCES IN THE USE OF MOOD MODIFYING DRUGS: AN EXPLANATORY MODEL. 100851 13-14
- LITHIUM CARBONATE: A SURVEY OF THE HISTORY AND CURRENT STATUS OF LITHIUM IN TREATING MOOD DISORDERS. (UNPUBLISHED PAPER). 106053 13-09
- MORPHINE**
- N-DEMETHYLATION OF N-14C-METHYL-CODEINE IN MORPHINE TOLERANT AND NONTOLERANT RATS AND MICE. MEDICINE. 077878 13-03
- CARDIOVASCULAR EFFECTS OF INTRAVENOUS MORPHINE IN THE ANESTHETIZED RAT. 079063 13-03
- EFFECTS OF CHRONIC AND ACUTE MORPHINE ADMINISTRATION ON ONE-WAY AVOIDANCE TRAINING. 079769 13-14
- NALORPHINE INDUCED CHANGES IN MORPHINE SELF-ADMINISTRATION IN RHESUS MONKEYS. 082719 13-04
- EFFECT OF MORPHINE ON THE PRESYNAPTIC AND POSTSYNAPTIC INHIBITIONS IN THE SPINAL CORD. 082788 13-03
- MORPHINE INDUCED HYPERALGESIA IN RATS TESTED ON THE HOT PLATE. 086105 13-04
- DECLINE IN THE MEAN INTEGRATED ELECTROENCEPHALOGRAPH VOLTAGE DURING MORPHINE ABSTINENCE IN THE RAT. 086106 13-03
- SOME RELATIONS BETWEEN TOLERANCE AND PHYSICAL DEPENDENCE TO MORPHINE IN MICE. 086809 13-04
- HYDROLYSIS: A REQUISITE FOR MORPHINE DETECTION IN URINE. 086892 13-16
- PHYSICAL DEPENDENCE ON MORPHINE FAILS TO INCREASE SEROTONIN TURNOVER RATE IN RAT BRAIN. 088994 13-03
- EFFECTS OF MORPHINE ON CHOLINE ACETYLTRANSFERASE LEVELS IN THE CAUDATE NUCLEUS OF THE RAT. 089050 13-03
- THE EFFECTS OF MORPHINE, PENTOBARBITAL AND CHLORPROMAZINE ON BIOELECTRICAL POTENTIALS EVOKED IN THE BRAIN STEM OF THE CAT BY ELECTRICAL STIMULATION OF THE GINGIVA AND TOOTH PULP. 094254 13-05
- DISTURBED PATTERNS OF BEHAVIOUR IN MORPHINE TOLERANT AND ABSTINENT RATS. 096150 13-04

## Psychopharmacology Abstracts

- ACTIONS OF MORPHINE AND NARCOTIC ANTAGONIST ANALGESICS ON THE SPINAL CORD OF ACUTE AND CHRONIC SPINAL RATS. 098305 13-03
- PLASMA MAGNESIUM CONCENTRATION AND URINARY MAGNESIUM EXCRETION IN RATS TREATED CHRONICALLY WITH MORPHINE. 099801 13-03
- MORPHINE TOLERANCE AND DEPENDENCE INDUCED BY INTRAVENTRICULAR INJECTION. 099826 13-04
- THE EFFECTS OF MORPHINE, MORPHINONE AND THEBAINE ON THE EEG AND BEHAVIOR OF RABBITS AND CATS. 100217 13-05
- UNSUCCESSFUL ATTEMPTS TO TRANSFER MORPHINE TOLERANCE AND PASSIVE AVOIDANCE BY BRAIN EXTRACTS. 100938 13-04
- BEHAVIORAL EFFECTS OF MORPHINE AND METHADONE IN RHESUS MONKEYS. 101740 13-04
- SOME FACTORS CONTROLLING ORAL MORPHINE INTAKE IN RATS. 102195 13-04
- THE DEVELOPMENT OF TOLERANCE TO AND OF PHYSICAL DEPENDENCE ON MORPHINE FOLLOWING INTRAVENTRICULAR INJECTION IN THE RAT. 102883 13-04
- A SIMPLE QUANTITATIVE METHOD FOR THE EVALUATION OF PHYSICAL DEPENDENCE LIABILITY OF MORPHINE IN MICE. 102885 13-04
- INCREASED SEROTONIN TURNOVER IN THE ACUTELY MORPHINE TREATED RAT. 103648 13-03
- PROLONGED TREATMENT WITH MORPHINE IN RATS: DRUG/BEHAVIOR INTERACTION UNDER AVERSIVE CONTROL. 103954 13-04
- AMOUNTS AND TURNOVER RATES OF BRAIN PROTEINS IN MORPHINE TOLERANT MICE. 104009 13-03
- MODIFICATION OF CONFLICT BEHAVIOR BY PRIOR EXPERIENCE: EFFECTS OF TRAINING AND MORPHINE. 104325 13-04
- DEVELOPMENT OF MORPHINE DEPENDENCE IN RATS: LACK OF EFFECT OF PREVIOUS INGESTION OF OTHER DRUGS. 104436 13-04
- DEVELOPMENT OF BEHAVIORAL TOLERANCE TO MORPHINE AND METHADONE USING THE SCHEDULE CONTROLLED BEHAVIOR OF THE PIGEON. 104809 13-04
- NIKETHAMIDE AND DOXAPRAM EFFECTS ON PENTAZOCINE AND MORPHINE INDUCED RESPIRATORY DEPRESSION. 105407 13-03
- CROSS-TOLERANCE BETWEEN METHYLAMPHETAMINE AND MORPHINE IN THE MOUSE. 106427 13-03
- INTERACTIONS OF MORPHINE AND NALORPHINE WITH PHYSOSTIGMINE ON OPERANT BEHAVIOR IN THE RAT. 107631 13-04
- MODIFICATION OF THE ANTINOCICEPTIVE ACTIVITY OF MORPHINE BY CENTRALLY ADMINISTERED OUABAIN AND DOPAMINE. 110188 13-03
- MORPHINE WITHDRAWAL AGGRESSION: SENSITIZATION BY AMPHETAMINES. 111142 13-04
- CATATONIA INDUCED IN THE RABBIT BY INTRACEREBRAL INJECTION OF BRADYKININ AND MORPHINE. 120716 13-03
- THE UPTAKE OF MORPHINE BY THE CHOROID PLEXUS AND CEREBRAL CORTICAL SLICES OF ANIMALS CHRONICALLY TREATED WITH MORPHINE. 122543 13-03
- EFFECT OF MORPHINE ON PROTEIN SYNTHESIS IN SYNAPTOSOMES AND MITOCHONDRIA OF MOUSE BRAIN. 123273 13-03
- STUDIES ON MORPHINE DEMONSTRATING THE PHENOMENA OF PHARMACOLOGIC TOLERANCE, BEHAVIORAL TOLERANCE AND BEHAVIORAL HABITUATION. (PH.D. DISSERTATION). 125242 13-04
- FURTHER OBSERVATION ON THE ENHANCEMENT BY MORPHINE OF THE CENTRAL DESCENDING INHIBITORY INFLUENCE ON SPINAL SENSORY TRANSMISSION. 125358 13-03
- INCREASE OF MORPHINE INDUCED ANALGESIA BY STIMULATION OF THE NUCLEUS RAPHE DORSALIS. 125653 13-03
- MORPHINE-LIKE**
- INCREASED TOXICITY OF MORPHINE-LIKE ANALGESICS IN AGGREGATED MICE. 106845 13-05

**MORPHINE**

THE EFFECTS OF MORPHINE, MORPHINONE AND THEBAIN ON THE EEG AND BEHAVIOR OF RABBITS AND CATS.

100217 13-05

**MORPHOLINE**

BIOCHEMICAL STUDIES OF CEREBRAL SUBFRACTIONS AFTER CHRONIC ADMINISTRATION OF PYRIDAZINE (N MORPHOLINE 3-ETHYLAMINE 4-PHENYL 6-PYRIDAZINE HYDROCHLORIDE, AG-620).

102694 13-03

**MORPHOLINO**

EFFECTS OF MORPHOLINO, PYRROLIDINO, PIPERIZINO, AND CYCLOOXYL DERIVATIVES OF BETA-ALANINE ON BRAIN AMINES AND AMINO ACIDS.

082729 13-04

**MOTHER**

EFFECT OF ALDRIN ON THE CONDITION AVOIDANCE RESPONSE AND ELECTROSHOCK SEIZURE THRESHOLD OF OFFSPRING FROM ALDRIN TREATED MOTHER.

104791 13-04

**MOTILITY**

THE EFFECT OF L-DOPA ON BRAIN CATECHOLAMINES AND MOTILITY IN RATS.

104575 13-03

HEXOBARBITAL SLEEPING TIME AND AMPHETAMINE MOTILITY AFTER SUBCHRONIC TETRAHYDROCANNABINOL TREATMENT.

123284 13-03

**MOTION**

EFFECTS OF DIAZEPAM AND MECLIZINE HYDROCHLORIDE ON EMOTIONAL UPSET DUE TO PERCEPTUAL DISSONANCE AND MOTION.

101578 13-04

**MOTIVATED**

CUE VALUE OF DEXAMETHASONE FOR FEAR MOTIVATED BEHAVIOR.

079066 13-04

HORMONAL INFLUENCES ON FEAR MOTIVATED RESPONSES.

093112 13-14

MOTIVATED BEHAVIORS PRODUCED BY INCREASED AROUSAL IN THE PRESENCE OF GOAL OBJECTS.

095549 13-04

INTERACTION OF AMPHETAMINE AND FOOD DEPRIVATION ON A FOOD MOTIVATED OPERANT.

120960 13-04

**MOTOR**

THE INFLUENCE OF ALCOHOL AND MARIJUANA ON MOTOR AND MENTAL PERFORMANCE.

079431 13-14

EFFECTS OF MAGNESIUM PEMOLINE IN DIMETHYLSULFOXIDE ON REVERSAL LEARNING, MOTOR ACTIVITY, AND WATER INTAKE.

079611 13-04

MOTOR DISORDERS INDUCED BY NEUROLEPTICS: A PROPOSED NEW CLASSIFICATION.

088201 13-15

VISUAL MOTOR PERFORMANCE DURING LITHIUM TREATMENT: A PRELIMINARY REPORT.

098612 13-14

THE EFFECT OF YOHIMBINE ON BRAIN SEROTONIN METABOLISM, MOTOR BEHAVIOR AND BODY TEMPERATURE OF THE RAT.

099648 13-03

THE DIFFERENTIAL EFFECTS OF METHAMPHETAMINE UPON VISUAL EXPLORATORY BEHAVIOR AND SPONTANEOUS MOTOR ACTIVITY IN RHESUS MONKEYS (MACACA-MULATTA).

103040 13-04

ACTIVITY OF MAJOR ANALGESICS ON MOTOR NOCICEPTIVE RESPONSES IN DECEREBRATE MICE.

105010 13-03

THE EFFECTS OF A MARIJUANA EXTRACT ON THE GENERAL MOTOR ACTIVITY OF THE SQUIRREL MONKEY.

105077 13-04

THE EFFECT OF CHLORPROTHIXENE AND CAFFEINE ON THE CONDITIONED ALIMENTARY MOTOR REFLEXES IN CATS.

106002 13-04

THE ROLE OF CENTRAL M-CHOLINERGIC SYSTEMS IN THE DEVELOPMENT OF FOOD MOTOR CONDITIONED REFLEXES.

107719 13-03

INCREASE IN FINE MOTOR CONTROL IN PARKINSON PATIENTS FOLLOWING LEVODOPA.

108473 13-11

UNEXPLAINED INHIBITORY ACTION OF D-LYSERGIC ACID DIETHYLAMIDE (LSD) ON POSTGANGLIONIC MOTOR TRANSMISSION IN THE GUINEA-PIG VAS-DEFERENS.

109198 13-03

EFFECT OF NEMBUTAL ON THE INHIBITORY WAVE OF ANTIDROMICALLY INDUCED POTENTIAL IN THE MOTOR CORTEX OF THE CAT.

111136 13-03

**MOTORIC**

EXTRAPYRAMIDAL MOTORIC SYMPTOMS AND EEG CHANGES AFTER APPLICATION OF PHENOTHIAZINE DERIVATIVES.

123602 13-15

**MOUSE**

EFFECTS OF IMIPRAMINE ON THE NA-ION DEPENDENT EXCHANGE AND RETENTION OF GAMMA-AMINOBUTYRIC ACID BY MOUSE BRAIN SUBCELLULAR PARTICLES.

077725 13-03

PROACTIVE AND RETROACTIVE EFFECTS OF DIETHYL ETHER ON SPATIAL DISCRIMINATION LEARNING IN INBRED MOUSE STRAINS DBA/2J AND C57BL/6J.

079532 13-14

ACTIVITY OF DELTA8- AND DELTA9-TETRAHYDROCANNABINOL AND RELATED COMPOUNDS IN THE MOUSE.

082707 13-03

NEUROPHARMACOLOGICAL STUDIES OF IMIDAZOLE-4-ACETIC ACID ACTIONS IN THE MOUSE AND RAT.

082860 13-04

A COMPARISON OF TECHNIQUES TO INDUCE ALCOHOL DEPENDENCE AND TOLERANCE IN THE MOUSE (UNPUBLISHED PAPER).

087462 13-06

EFFECT OF ACUTE AND CHRONIC ADMINISTRATION OF ETHANOL ON THE 5-HYDROXYTRYPTAMINE TURNOVER AND TRYPTOPHAN HYDROXYLASE ACTIVITY OF THE MOUSE BRAIN.

088284 13-03

EFFECTS OF ACUTE AND CHRONIC ETHANOL ADMINISTRATION ON RIBOSOMAL PROTEIN SYNTHESIS IN MOUSE BRAIN AND LIVER.

088558 13-03

THE INFLUENCE OF HYPOTHERMIA ON CHLORPROMAZINE INDUCED METABOLIC CHANGES IN MOUSE HEART AND BRAIN.

088641 13-03

CHOLINERGIC INFLUENCED NARCOSIS AND BRAIN ACETYLCHOLINE CONTENT OF MOUSE.

094258 13-03

RELEARNING AT DIFFERENT TIMES AFTER TRAINING AS AFFECTED BY CENTRALLY AND PERIPHERALLY ACTING CHOLINERGIC DRUGS IN THE MOUSE.

097739 13-04

THE EFFECTS OF EXCITATORY AND INHIBITORY AMINO ACIDS ON THE METABOLISM OF ENDOGENOUS BRAIN AMINO ACIDS IN THE NEMBUTALIZED MOUSE.

099266 13-03

EVIDENCE FOR INHIBITION BY BRAIN SEROTONIN OF MOUSE KILLING BEHAVIOR IN RATS.

099794 13-04

NOREPINEPHRINE STIMULATED INCREASE OF CYCLIC AMP LEVELS IN DEVELOPING MOUSE BRAIN CELL CULTURES.

100103 13-03

EFFECT OF PARA-METHOXYAMPHETAMINE ON CATECHOLAMINE METABOLISM IN THE MOUSE BRAIN.

101543 13-03

OXIDATIVE METABOLISM OF MESCALINE IN THE CENTRAL NERVOUS SYSTEM - II. OXIDATIVE DEAMINATION OF MESCALINE AND 2,3,4-TRIMETHOXY-BETA-PHENYLETHYLAMINE BY DIFFERENT MOUSE BRAIN AREA IN VITRO.

102734 13-03

EFFECT OF IN VIVO ETHANOL ADMINISTRATION ON ADENOSINETRIPHOSPHATASE ACTIVITY OF SUBCELLULAR FRACTIONS OF MOUSE BRAIN AND LIVER.

105518 13-03

STRESS RELATED EFFECTS OF VARIOUS INHIBITORS OF CATECHOLAMINE SYNTHESIS IN THE MOUSE.

106152 13-03

CROSS-TOLERANCE BETWEEN METHYLAMPHETAMINE AND MORPHINE IN THE MOUSE.

106427 13-03

EFFECTS OF INTRAPERITONEAL INJECTIONS OF LITHIUM CHLORIDE ON THE ENTRY OF RADIOACTIVE CARBON ATOMS OF GLUCOSE AND AMINO ACIDS INTO MOUSE BRAIN AND OTHER TISSUES.

106524 13-03

A COMPARATIVE STUDY ON THE METABOLISM OF 3,4-DIMETHOXYPHENYLETHYLAMINE-C14 AND MESCALINE-C14 BY RABBIT, MOUSE AND RAT BRAIN HOMOGENATES.

106527 13-03

THE EFFECT OF PETHIDINE ON THE 5-HYDROXYTRYPTAMINE AND 5-HYDROXYINDOLEACETIC ACID CONTENT OF THE MOUSE BRAIN.

106847 13-03

PHARMACOLOGICAL OBSERVATIONS ON THE VAS-DEFERENS OF THE MOUSE.

120409 13-03

SUBCELLULAR DISTRIBUTION OF 8-14C-MESCALINE IN THE MOUSE BRAIN AND LIVER.

120471 13-03

REDUCTION OF HISTAMINE IN MOUSE BRAIN BY NL (DL-SERYL)-N2-(2,3,4-TRIHYDROXYBENZYL) HYDRAZINE AND RESERPINE.

122546 13-03

EFFECT OF MORPHINE ON PROTEIN SYNTHESIS IN SYNAPTOSOMES AND MITOCHONDRIA OF MOUSE BRAIN.

123273 13-03

## Subject Index

- MOUTH**  
DRUGS, DRY MOUTH, AND DENTAL DISEASE. 103633 13-15
- MOVEMENT**  
THE PHARMACOLOGY OF RAPID EYE MOVEMENT SLEEP. 108524 13-14  
STUDIES OF THE SPONTANEOUS MOVEMENT OF ANIMALS BY THE HOLE CROSS TEST; EFFECT OF 2-DIMETHYLAMINOETHANOL AND ITS ACYL ESTERS ON THE CENTRAL NERVOUS SYSTEM. 120930 13-03
- MOVEMENTS**  
EFFECT OF BENZODIAZEPINES UPON SACCADIC EYE MOVEMENTS IN MAN. 104368 13-13
- MOVING**  
A DEVICE FOR THE CHRONIC INTRAVENTRICULAR INFUSION IN FREELY MOVING RATS. 088576 13-06
- MPD**  
MEPROBAMATE THERAPY FOR THE MYOFASCIAL PAIN DYSFUNCTION (MPD) SYNDROME: A DOUBLE-BLIND EVALUATION. 089881 13-17
- MSH**  
PSYCHOPHYSIOLOGIC CORRELATES OF MSH ACTIVITY IN MAN. 106761 13-14
- MULTIHOSPITAL**  
MULTIHOSPITAL CONTROLLED COMPARISON OF THE THERAPEUTIC EFFECTS OF FOUR ANTIDEPRESSANTS. 105833 13-09
- MULTIPLE**  
EFFECTS OF CHRONIC TRIFLUOPERAZINE ADMINISTRATION IN MULTIPLE DOSAGES ON RAT OFFSPRING BEHAVIOR. 102824 13-04
- MURINE**  
THE INFLUENCE OF SOME SELECTED PSYCHOACTIVE DRUGS ON THE SPONTANEOUS CONTRACTILE ACTIVITY OF THE ISOLATED MURINE PORTAL VEIN. 104964 13-03
- MUSCLE**  
RELEASE OF CREATINE PHOSPHOKINASE FROM MUSCLE - 1. EFFECT OF POLYMYXIN B, COMPOUND 48/80, AND SEROTONIN. 108719 13-05  
EFFECTS OF SOME NARCOTIC ANALGESICS AND RELATED COMPOUNDS UPON THE EXTENSOR MONOSYNAPTIC REFLEX INHIBITION FROM CUTANEOUS NERVE AND HIGH THRESHOLD MUSCLE AFFERENTS. 125324 13-03
- MUSCULAR**  
EFFECTS OF SOME NARCOTIC ANALGESICS UPON THE MONOSYNAPTIC REFLEX INHIBITION FROM MUSCULAR AND CUTANEOUS AFFERENTS IN SPINAL CORD OF THE CAT. 125327 13-03
- MUTAGENIC**  
MUTAGENIC ACTIVITY OF PHENOTHIAZINE AND OTHER DRUGS. 113434 13-03
- MYOCARDIAL**  
THE EFFECT OF INTRAVENOUS ETHYL-ALCOHOL ON THE CORONARY CIRCULATION AND MYOCARDIAL CONTRACTILITY OF THE HUMAN AND CANINE HEART. 087032 13-13  
COMPARATIVE EVALUATION OF DIAZEPAM (VALIUM) AND PHENOBARBITAL FOR THE RELIEF OF ANXIETY RELATED SYMPTOMS IN PATIENTS HOSPITALIZED FOR ACUTE MYOCARDIAL INFARCTION. 100626 13-14  
MYOCARDIAL INFARCTION FOLLOWING INTOXICATION WITH ETHANOL AND CHLORPROMAZINE. 118662 13-15
- MYOFASCIAL**  
MEPROBAMATE THERAPY FOR THE MYOFASCIAL PAIN DYSFUNCTION (MPD) SYNDROME: A DOUBLE-BLIND EVALUATION. 089881 13-17
- MYOGLOBINURIA**  
ACUTE MYOGLOBINURIA ASSOCIATED WITH HEROIN ADDICTION. 090662 13-15
- MYOKYMIA**  
ELECTROCLINICAL STUDY OF A CASE OF NEUROMYOTONIA WITH MYOKYMIA, REACTING FAVORABLY TO CARBAMAZEPINE TREATMENT. 121796 13-13
- MYSTICAL**  
THE PSYCHEDELIC MYSTICAL EXPERIENCE IN THE HUMAN ENCOUNTER WITH DEATH. 089185 13-12
- MYTH**  
INCREASED SEXUAL DESIRE AT THE MENOPAUSE: A MYTH EXPLODED. 093796 13-11
- MYXEDEMA**  
LITHIUM CARBONATE INDUCED MYXEDEMA. 102880 13-15

## Psychopharmacology Abstracts

- N-ACETYLSPARAGINATE**  
ANALYSIS OF THE EFFECTS OF ARGININE N-ACETYLSPARAGINATE ON THE CENTRAL NERVOUS SYSTEM. 103653 13-03
- N-ACETRYPTAMINES**  
HYDROXYINDOLE-O-METHYLTRANSFERASE V: EFFECTS OF SUBSTITUENTS ON HYDROLYSIS OF N-ACETRYPTAMINES IN RATS. 082761 13-03
- N-CYCLOPROPYLMETHYL**  
CHARACTERIZATION OF THE BLOCKING EFFECTS OF EN-1639A (N-CYCLOPROPYLMETHYL 7,8-DIHYDRO 14-HYDROXYNORMORPHINE HCL). (UNPUBLISHED PAPER). 088400 13-13
- N-DEMETHYLATION**  
N-DEMETHYLATION OF N-14C-METHYL-CODEINE IN MORPHINE TOLERANT AND NONTOLERANT RATS AND MICE. MEDICINE. 077878 13-03  
THE INFLUENCE OF METHYL SUBSTITUTION ON THE N-DEMETHYLATION AND N-OXIDATION OF NORMETHADONE IN ANIMAL SPECIES. 106423 13-03  
N-DEMETHYLATION AND N-OXIDATION OF IMIPRAMINE BY RAT AND PIG LIVER MICROSOMES. 108290 13-03
- N-DEMETHYLTRYPTAMINES**  
RELATIVE POTENCY OF AMPHETAMINE DERIVATIVES AND N, N-DEMETHYLTRYPTAMINES. 125250 13-04
- N-DESMETHYLDIAZEPAM**  
BLOOD LEVELS OF DIAZEPAM (VALIUM) AND N-DESMETHYLDIAZEPAM IN THE EPILEPTIC CHILD. A PRELIMINARY REPORT. 093821 13-13
- N-METHYLTYRAMINE**  
CACTUS ALKALOIDS X: ISOLATION OF HORDENINE AND N-METHYLTYRAMINE FROM ARIOCARPUS-KOTSCHOUBEYANUS. 079413 13-01
- N-OXIDATION**  
THE INFLUENCE OF METHYL SUBSTITUTION ON THE N-DEMETHYLATION AND N-OXIDATION OF NORMETHADONE IN ANIMAL SPECIES. 106423 13-03  
N-DEMETHYLATION AND N-OXIDATION OF IMIPRAMINE BY RAT AND PIG LIVER MICROSOMES. 108290 13-03
- N-SUBSTITUTED**  
N-SUBSTITUTED ANALOGUES OF NEUROLEPTICS OF THE OCTOCLOTHEPIN SERIES: RELATIONS BETWEEN STRUCTURE AND ACTIVITY. 105824 13-02
- N-14C-METHYL-CODEINE**  
N-DEMETHYLATION OF N-14C-METHYL-CODEINE IN MORPHINE TOLERANT AND NONTOLERANT RATS AND MICE. MEDICINE. 077878 13-03
- NA-ION**  
EFFECTS OF IMIPRAMINE ON THE NA-ION DEPENDENT EXCHANGE AND RETENTION OF GAMMA-AMINOBUTYRIC ACID BY MOUSE BRAIN SUBCELLULAR PARTICLES. 077725 13-03
- NA-K-ATPASE**  
INSECTICIDE INHIBITION OF NA-K-ATPASE ACTIVITY. 077871 13-03
- NACL**  
CONDITIONED DRINKING PRODUCED BY PROCAINE, NACL, AND ANGIOTENSIN. 102540 13-04
- NAD-TREATED**  
SLEEP, PSYCHOLOGICAL AND CLINICAL CHANGES DURING ALCOHOL WITHDRAWAL IN NAD-TREATED ALCOHOLICS. 106132 13-11
- NAIVE**  
METABOLISM AND DISPOSITION OF TETRAHYDROCANNABINOLS IN NAIVE SUBJECTS AND MARIJUANA USERS (UNPUBLISHED PAPER). 092894 13-13
- NALBUPHINE**  
PROGRESS REPORT ON THE ASSESSMENT OF THE ANTAGONISTS NALBUPHINE AND GPA-2087 FOR ABUSE POTENTIAL AND STUDIES OF THE EFFECTS OF DEXTROMETHORPHAN IN MAN (UNPUBLISHED PAPER). 094938 13-13
- NALORPHINE**  
NALORPHINE INDUCED CHANGES IN MORPHINE SELF-ADMINISTRATION IN RHESUS MONKEYS. 082719 13-04  
INTERACTIONS OF MORPHINE AND NALORPHINE WITH PHYSOSTIGMINE ON OPERANT BEHAVIOR IN THE RAT. 107631 13-04
- NALOXONE**  
INTERACTIONS BETWEEN NALOXONE AND CHLORPROMAZINE ON BEHAVIOR UNDER SCHEDULE CONTROL. 104826 13-03

- THE EFFECTS OF NALOXONE, CHLORPROMAZINE, AND HALOPERIDOL  
PRETREATMENT ON LEVALLORPHAN INDUCED DISRUPTION OF RATS  
OPERANT BEHAVIOR. 111145 13-04
- NARCOLEPSY**  
NARCOLEPSY AND HYPERSONNIA. 101819 13-14  
ON THE TREATMENT OF PATIENTS WITH NARCOLEPSY. 102828 13-17  
TREATMENT OF INTRACTABLE NARCOLEPSY WITH A MONOAMINE  
OXIDASE INHIBITOR. 103248 13-14  
PRELIMINARY CLINICAL TRIAL WITH L-DOPA IN NARCOLEPSY. 104833 13-15
- NARCOSIS**  
CHOLINERGIC INFLUENCED NARCOSIS AND BRAIN ACETYLCHOLINE  
CONTENT OF MOUSE. 094258 13-03  
POTENTIATION OF BARBITAL NARCOSIS IN MICE BY CHOLINOMIMETICS  
AND CHOLINESTERASE BLOCKERS. 122047 13-03
- NARCOTIC**  
NARCOTIC TOLERANCE AND DEPENDENCE: LACK OF RELATIONSHIP WITH  
SEROTONIN TURNOVER IN THE BRAIN. 082727 13-03  
ACTIONS OF MORPHINE AND NARCOTIC ANTAGONIST ANALGESICS ON  
THE SPINAL CORD OF ACUTE AND CHRONIC SPINAL RATS. 098305 13-03  
COMPARISON OF PRAZEPAM AND PLACEBO IN THE TREATMENT OF  
CONVALESCING NARCOTIC ADDICTS. 100259 13-14  
DIAZEPAM IN THE MANAGEMENT OF THE NEONATAL NARCOTIC  
WITHDRAWAL SYNDROME. 101432 13-11  
POSTOPERATIVE MANAGEMENT OF A NARCOTIC ADDICT. 104025 13-17  
EFFECTS OF NARCOTIC ANALGESICS AND ANTAGONISTS ON THE IN VIVO  
RELEASE OF ACETYLCHOLINE FROM THE CEREBRAL CORTEX OF THE  
CAT. 104537 13-03  
PHARMACOLOGICAL ACTION MECHANISMS OF NARCOTIC AGENTS. 107512 13-12  
EFFECTS OF SOME NARCOTIC ANALGESICS AND RELATED COMPOUNDS  
UPON THE EXTENSOR MONOSYNAPTIC REFLEX INHIBITION FROM  
CUTANEOUS NERVE AND HIGH THRESHOLD MUSCLE AFFERENTS. 125324 13-03  
EFFECTS OF SOME NARCOTIC ANALGESICS UPON THE MONOSYNAPTIC  
REFLEX INHIBITION FROM MUSCULAR AND CUTANEOUS AFFERENTS IN  
SPINAL CORD OF THE CAT. 125327 13-03
- NARCOTICS**  
METHADONE AND L-METHADYL ACETATE: USE IN MANAGEMENT OF  
NARCOTICS ADDICTS. 091592 13-07  
TOLERANCE TO OPIOID NARCOTICS: TIME COURSE AND REVERSIBILITY  
OF PHYSICAL DEPENDENCE IN MICE. 098926 13-03  
RAPID METHOD FOR SIMULTANEOUS QUALITATIVE ASSAY OF  
NARCOTICS, COCAINE, QUININE AND PROPOXYPHENE IN THE URINE. 100168 13-16  
SOME PHARMACOLOGICAL PERSPECTIVES ON THE OPIATE NARCOTICS  
WITH SPECIAL CONSIDERATION OF HEROIN. 111518 13-14  
PHARMACOLOGY OF NARCOTICS AND ANTAGONISTS AS RELATED TO  
DRUG ABUSE. 116814 13-13
- NATURE**  
FURTHER STUDIES ON THE NATURE OF PERSISTENT RESERPINE BINDING:  
EVIDENCE FOR REVERSIBLE AND IRREVERSIBLE BINDING. 086820 13-03  
CIGARETTE DEPENDENCE: I - NATURE AND CLASSIFICATION. 091779 13-14  
NEW POSSIBILITIES OF CONTROLLING STATES OF UNREST OF A  
PSYCHOMOTOR OR CEREBROSCLEROTIC NATURE IN INSTITUTIONAL  
GERIATRICS. 102383 13-11  
ON THE THERAPY AND PROBLEMATIC NATURE OF PARKINSON  
SYNDROME. 105491 13-15
- NAVANE**  
THIOXIXENE (NAVANE) IN THE TREATMENT OF APATHIC SYNDROMES  
OF SCHIZOPHRENIC ORIGIN. 089303 13-08
- NC-123**  
NC-123 IN THE TREATMENT OF DISTURBANCES OF SEXUAL POTENCY. 105922 13-14
- NEGATIVE**  
EEG, EVOKED POTENTIAL, AND CONTINGENT NEGATIVE VARIATIONS  
WITH LITHIUM IN MANIAC DEPRESSIVE DISEASE. 097458 13-09
- NEMBUTAL**  
EFFECTS OF MESCALINE AND NEMBUTAL ON CORTICAL AND RETINAL  
LIGHT EVOKED RESPONSES IN THE CAT. (PH.D. DISSERTATION). 109622 13-03  
EFFECT OF NEMBUTAL ON THE INHIBITORY WAVE OF ANTIDROMICALLY  
INDUCED POTENTIAL IN THE MOTOR CORTEX OF THE CAT. 111136 13-03  
CHANGES IN THE REACTIVITY OF NEURONS OF THE PROJECTION CORTEX  
UNDER THE EFFECT OF NEMBUTAL. 111816 13-03
- NEMBUTALIZED**  
THE EFFECTS OF EXCITATORY AND INHIBITORY AMINO ACIDS ON THE  
METABOLISM OF ENDOGENOUS BRAIN AMINO ACIDS IN THE  
NEMBUTALIZED MOUSE. 099266 13-03
- NEONATAL**  
NEONATAL ADMINISTRATION OF ANDROSTENEDIONE, TESTOSTERONE OR  
TESTOSTERONE PROPIONATE: EFFECTS ON OVULATION, SEXUAL  
RECEPTIVITY AND AGGRESSIVE BEHAVIOR IN FEMALE MICE. 088581 13-04  
IMPAIRED BILIARY EXCRETION OF PHENOL 3,6 DIBROMOPHTHALEIN  
DISULFONATE IN NEONATAL GUINEA-PIGS. 089284 13-03  
DIAZEPAM IN THE MANAGEMENT OF THE NEONATAL NARCOTIC  
WITHDRAWAL SYNDROME. 101432 13-11
- NEONATE**  
INFLUENCE OF PERINATAL DRUGS ON THE BEHAVIOR OF THE NEONATE. 099518 13-15
- NEONATES**  
INTRAVENOUS DIAZEPAM IN THE TREATMENT OF PROLONGED SEIZURE  
ACTIVITY IN NEONATES AND INFANTS. 101560 13-11
- NERVE**  
EFFECT OF LITHIUM ON THE RELEASE OF 14C-NOREPINEPHRINE BY NERVE  
STIMULATION FROM THE PERFUSED CAT SPLEEN. 077989 13-03  
IMPORTANCE OF CATECHOLAMINE RELEASE BY NERVE IMPULSES FOR  
FREE OPERANT BEHAVIOR. 106757 13-04  
FAILURE TO AFFECT TISSUE RESERPINE CONCENTRATIONS BY  
ALTERATION OF ADRENERGIC NERVE ACTIVITY. 108399 13-03  
CORRELATION OF THE RECOVERY OF THE GRANULAR UPTAKE STORAGE  
MECHANISM AND THE NERVE IMPULSE INDUCED RELEASE OF  
(3H)NORADRENALINE AFTER RESERPINE. 120819 13-03  
IN VIVO INCORPORATION OF LABELLED CHOLINE AND ACETYLCHOLINE IN  
THE VESICLES OF BRAIN NERVE ENDINGS. 123283 13-03  
EFFECTS OF SOME NARCOTIC ANALGESICS AND RELATED COMPOUNDS  
UPON THE EXTENSOR MONOSYNAPTIC REFLEX INHIBITION FROM  
CUTANEOUS NERVE AND HIGH THRESHOLD MUSCLE AFFERENTS. 125324 13-03
- NERVES**  
THE ACCUMULATION OF 14C-SEROTONIN IN THE SYMPATHETIC NERVES  
OF THE GUINEA-PIG VAS-DEFERENS (UNPUBLISHED PAPER). 092689 13-03  
MONOAMINE OXIDASE IN SYMPATHETIC NERVES: A TRANSMITTER  
SPECIFIC ENZYME TYPE. 108792 13-03
- NERVOUS**  
CENTRAL NERVOUS SYSTEM AND CARDIOVASCULAR EFFECTS OF  
LORAZEPAM IN MAN. 077933 13-13  
AN EXAMINATION OF THE EFFECT OF CENTRAL NERVOUS SYSTEM  
STIMULANT AND ANTIDEPRESSANT DRUGS ON OPEN-FIELD  
PERFORMANCE IN RATS. 078937 13-04  
EFFECT OF LEVOMEPROMAZINE ON HIGHER NERVOUS ACTIVITY IN  
SCHIZOPHRENIA. 086571 13-07  
STUDIES ON THE FUNCTIONAL SIGNIFICANCE OF CARBONIC ANHYDRASE  
IN CENTRAL NERVOUS SYSTEM. 092158 13-03  
NEUROPHARMACOLOGICAL PROPERTIES OF SU17595A, A  
CHLORPROMAZINE-LIKE CENTRAL NERVOUS SYSTEM DEPRESSANT. 098158 13-03  
CENTRAL NERVOUS SYSTEM EFFECTS OF SIDA-RETUSA ROOT. 098306 13-04  
OXIDATIVE METABOLISM OF MESCALINE IN THE CENTRAL NERVOUS  
SYSTEM - II. OXIDATIVE DEAMINATION OF MESCALINE AND 2,3,4

## Subject Index

## Psychopharmacology Abstracts

- TRIMETHOXY-BETA-PHENYLETHYLAMINE BY DIFFERENT MOUSE BRAIN AREA IN VITRO. 102734 13-03
- ANALYSIS OF THE EFFECTS OF ARGININE N-ACETYLSPARAGINATE ON THE CENTRAL NERVOUS SYSTEM. 103653 13-03
- ACTION OF PICRIC ACID ON THE EFFECTS OF SOME DRUGS ACTING ON THE CENTRAL NERVOUS SYSTEM, WITH SPECIAL REFERENCE TO OPIOIDS. 103655 13-03
- GABA UPTAKE IN RAT CENTRAL NERVOUS SYSTEM: COMPARISON OF UPTAKE IN SLICES AND HOMOGENATES AND THE EFFECTS OF SOME INHIBITORS. 104007 13-03
- STRUCTURE ACTIVITY RELATIONSHIP OF S-TRIAZOLO 1,4 BENZODIAZEPINES IN CENTRAL NERVOUS DEPRESSANT ACTION. 105390 13-02
- ENTRY AND DISTRIBUTION OF HEXAMETHONIUM IN THE CENTRAL NERVOUS SYSTEM. 105706 13-03
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN. I. THE ACTION ON THE CENTRAL NERVOUS SYSTEM IN RODENT 105839 13-02
- ACUTE EFFECT OF DIMETHACRINE (50MG), MEFEXAMIDE (200MG), AND DIXYRAZINE (25MG) ON HIGHER NERVOUS ACTIVITY IN MAN. 105915 13-14
- EFFECT OF PALMITOYL ETHANOLAMIDE ON THE CENTRAL NERVOUS SYSTEM. 105998 13-02
- APPETITE SUPPRESSION AND CENTRAL NERVOUS SYSTEM STIMULATION IN THE RHESUS MONKEY. 110185 13-04
- ELECTROPHYSIOLOGICAL STUDY OF THE ACTION OF A NEW BENZODIAZEPINE DERIVATIVE (ORF-8063) ON THE CENTRAL NERVOUS SYSTEM. 117025 13-04
- IMPORTANCE OF NERVOUS IMPULSE FLOW FOR THE NEUROLEPTIC INDUCED INCREASE IN AMINE TURNOVER IN CENTRAL DOPAMINE NEURONS. 120717 13-03
- STUDIES OF THE SPONTANEOUS MOVEMENT OF ANIMALS BY THE HOLE CROSS TEST; EFFECT OF 2-DIMETHYLAMINOETHANOL AND ITS ACYL ESTERS ON THE CENTRAL NERVOUS SYSTEM. 120930 13-03
- STUDIES ON THE FUNCTIONAL ROLE OF ADENOSINE 3,5 MONOPHOSPHATE, HISTAMINE, AND PROSTAGLANDIN E1 IN THE CENTRAL NERVOUS SYSTEM. 120949 13-14
- THE EFFECT OF LOCAL ANESTHETICS ON THE CENTRAL NERVOUS SYSTEM TOXICITY OF HYPERBARIC OXYGEN. 122540 13-03
- THE INFLUENCE OF 1-(O-ALLYLPHENOXY)-3 ISOPROPYLAMINO-2-PROPANOL HYDROCHLORIDE (ALPENOLOL) ON THE CENTRAL NERVOUS SYSTEM OF THE RAT. 124105 13-03
- SEPARATION OF THE EFFECTS OF MAGNESIUM PEMOLINE ON AVOIDANCE LEARNING AND MEMORY FROM ITS CENTRAL NERVOUS SYSTEM STIMULANT PROPERTIES BY CHLORDIAZEPOXIDE. 125410 13-04
- NEULEPTIL**  
ATTEMPTS AT TREATMENT WITH NEULEPTIL IN CHILDREN IN A SPECIAL INSTITUTE. 086593 13-11
- NEURAL**  
AGGRESSION AND ASSOCIATED NEURAL EVENTS IN CATS: EFFECTS OF PARA-CHLOROPHENYLALANINE COMPARED WITH ALCOHOL. 101287 13-03
- ETHANOL AND THE NEURAL SUBSTRATE FOR AFFECTIVE DEFENSE IN THE CAT. 101748 13-04
- EVOKED POTENTIAL AND SINGLE UNIT STUDIES OF NEURAL MECHANISMS UNDERLYING THE EFFECTS OF REPETITIVE STIMULATION IN THE AUDITORY PATHWAY. 108671 13-03
- NEURAMINIDASE**  
DECREASED CALCIUM UPTAKE BY RAT FUNDAL STRIPS AFTER PRETREATMENT WITH NEURAMINIDASE OR LSD IN VITRO. 105710 13-03
- NEURO**  
NEURO AND PSYCHOTROPIC DRUGS IN PRESCRIPTIONS OF PHYSICIANS IN THE DISTRICT PRAGUE 6. 106098 13-17
- NEUROACTIVE**  
LEARNED ESCAPE BEHAVIOR INDUCED BY BRAIN ELECTRICAL STIMULATION AND VARIOUS NEUROACTIVE AGENTS. 104786 13-04
- SUSCEPTIBILITY TO AUDIOGENIC STIMULI INDUCED BY HYPERBARIC OXYGENATION AND VARIOUS NEUROACTIVE AGENTS. 119724 13-03
- NEUROCHEMICAL**  
VARIATION IN HYDROXYTRYPTAMINE METABOLISM IN THE RAT. EFFECTS ON THE NEUROCHEMICAL RESPONSE TO PHENCYCLIDINE. 105403 13-03
- NEUROENDOCRINE**  
NEUROENDOCRINE CONTROL OF THE ADENOSINE 3,5 - MONOPHOSPHATE SYSTEM OF BRAIN AND PINEAL GLAND. (UNPUBLISHED PAPER). 099967 13-03
- NEUROGENICALLY**  
EFFECT OF IMIPRAMINE ON CATECHOLAMINE CONTENT IN A NEUROGENICALLY DYSTROPHIC GASTRIC WALL. 113520 13-03
- NEUROLEPTANALGESIA**  
NEUROLEPTANALGESIA IN BILATERAL SIMULTANEOUS CAROTID ANGIOGRAPHY. 102281 13-14
- NEUROLEPTIC**  
LONG-TERM TREATMENT WITH NEUROLEPTIC DRUGS AND EYE OPACITIES. 079832 13-14
- CHOLINERGIC AND NEUROLEPTIC INDUCED CATALEPSY; MODIFICATION BY LESIONS IN THE CAUDATE PUTAMEN. 086899 13-03
- PERSISTENCE OF NEUROLOGICAL SYMPTOMS DUE TO NEUROLEPTIC DRUGS. 088145 13-15
- RELATION OF HYPERMAGNEAEMIA TO ACTIVITY AND NEUROLEPTIC DRUG THERAPY IN SCHIZOPHRENIC STATES. 088729 13-13
- PHARMACOLOGICAL STUDY OF A NEWLY DERIVED NEUROLEPTIC: OXAFUMAZINE. 094620 13-02
- CLOZAPINE, A NONCATALEPTOGENIC NEUROLEPTIC FOR THE TREATMENT OF AGITATED CONDITION BEHAVIORAL DISORDERS. 094970 13-14
- A CLINICAL STUDY OF OXAFUMAZINE: ITS PLACE AMONG NEUROLEPTIC DRUGS. 097797 13-08
- COURSE OF BODY TEMPERATURE IN NEUROLEPTIC INJECTION TREATMENTS: STATISTICAL EVALUATION OF RETROSPECTIVE DATA. 098272 13-15
- DECANOATE OF FLUPHENAZINE, A NEUROLEPTIC WITH RETARDED ACTION, IN THE TREATMENT OF SCHIZOPHRENIA. 098982 13-08
- THE INFLUENCE OF NEUROLEPTIC AND THYMOLPTIC DRUGS ON STEREOTYPES INDUCED BY AMPHETAMINE AND APOMORPHINE. 102186 13-04
- CLINICAL AND ERGOTHERAPEUTIC EVALUATION OF FLUSPIRILENE (R-6218), A LONG-ACTING INJECTABLE NEUROLEPTIC, IN CHRONIC PSYCHOTIC PATIENTS. 102577 13-07
- ON THE ANALYSIS OF SIDE (NEUROLEPTIC) MANIFESTATIONS IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS WITH MAJEPTIL. 102657 13-08
- CLINICAL POSSIBILITIES OF THE EVALUATION OF PHARMACOTHERAPY, INVESTIGATED BY TESTING THE EFFECTIVENESS OF THE NEUROLEPTIC DRUG PIMOZIDE. 104226 13-07
- INTRASTRIATAL INJECTION OF QUATERNARY BUTYROPHENONES AND OXYPERTINE: NEUROLEPTIC EFFECT IN RATS. 104374 13-04
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN. II. INFLUENCE ON BEHAVIOR IN RATS. 105838 13-04
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN. I. THE ACTION ON THE CENTRAL NERVOUS SYSTEM IN RODENT 105839 13-02
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN. III. ELECTROENCEPHALOGRAPHIC STUDY IN RABBITS. 105840 13-03
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN. IV. ANTIANDRENERGIC ACTION AND INFLUENCE ON BRAIN MONOAMINES. 105841 13-03
- EYE CHANGES IN CONNECTION WITH NEUROLEPTIC TREATMENT ESPECIALLY CONCERNING PHENOTHIAZINES AND THIOXANTHINES. 115395 13-13
- A QUANTITATIVE STUDY OF NEUROLEPTIC INDUCED EXTRAPYRAMIDAL SYMPTOMS AND THEIR RESPONSE TO DEXTIMIDE, A POTENT AND LONG-ACTING ANTIPARKINSONIAN AGENT. 115396 13-13

- WITHDRAWAL SYMPTOMS FOLLOWING CESSATION OF PROLONGED  
NEUROLEPTIC THERAPY. 118127 13-08
- IMPORTANCE OF NERVOUS IMPULSE FLOW FOR THE NEUROLEPTIC  
INDUCED INCREASE IN AMINE TURNOVER IN CENTRAL DOPAMINE  
NEURONS. 120717 13-03
- CHOLINERGIC AND NEUROLEPTIC INDUCED CATALEPSY: MODIFICATION  
BY LESIONS IN THE GLOBUS-PALLIDUS AND SUBSTANTIA-NIGRA. 122542 13-03
- ACCUMULATION OF METABOLITES DURING CHRONIC APPLICATION OF  
THE NEUROLEPTIC DRUG PERAZINE TO RATS. 123268 13-03
- METHYLPHENIDATE ANTAGONISM IN MICE AS A RAPID SCREENING TEST  
FOR NEUROLEPTIC DRUGS. 123275 13-04
- NEUROLEPTICS**
- INFLUENCE OF SEX OF HOSPITALIZED SCHIZOPHRENICS ON THERAPEUTIC  
DOSAGE LEVELS OF NEUROLEPTICS. 079314 13-17
- MOTOR DISORDERS INDUCED BY NEUROLEPTICS: A PROPOSED NEW  
CLASSIFICATION. 088201 13-15
- SIMULTANEOUS CLINICAL USE OF TWO NEUROLEPTICS (DROPERIDOL  
AND FLUPENTHIXOL) IN PSYCHIATRIC THERAPY. 096309 13-08
- CRITICAL COMMENTARY ON THE CONCEPT OF NEUROLEPTICS (BASED ON  
PHARMACOLOGICAL AND CLINICAL FINDINGS WITH CLOZAPINE). 099027 13-17
- PSYCHIATRY AND IMMUNOLOGY: CONTRIBUTION OF THE EXPERIMENTAL  
STUDY OF THE IMMUNODEPRESSANT EFFECT OF A CORRECTOR OF  
EXTRAPYRAMIDAL SYNDROMES INDUCED BY NEUROLEPTICS:  
ETHYLBENZATROPINE. 100604 13-11
- THE INFLUENCE OF TREATMENT WITH NEUROLEPTICS UPON THE  
ANTIBODY FORMATION. 104798 13-13
- N-SUBSTITUTED ANALOGUES OF NEUROLEPTICS OF THE OCTOCLOHEPIN  
SERIES: RELATIONS BETWEEN STRUCTURE AND ACTIVITY. 105824 13-02
- EFFECT OF NEUROLEPTICS ON BRAIN AMPHETAMINE CONCENTRATIONS  
IN THE RAT. 106428 13-03
- ADRENERGIC EFFECT OF CHRONIC ADMINISTRATION OF NEUROLEPTICS  
AND ANTIDEPRESSANTS ON A MODEL OF APOMORPHINE INDUCED  
STEREOTYPY. 111135 13-04
- MENTAL STATES FOLLOWING PREMEDICATION WITH NEUROLEPTICS AND  
ANALGESICS. 125772 13-14
- NEUROLOGICAL**
- SOME NEUROLOGICAL EFFECTS OF AMPHETAMINE,  
METHYLAMPHETAMINE AND P-BROMOMETHYLAMPHETAMINE IN THE  
RAT. 074843 13-03
- PERSISTENCE OF NEUROLOGICAL SYMPTOMS DUE TO NEUROLEPTIC  
DRUGS. 088145 13-15
- PROBLEMS RAISED IN THE TREATMENT OF NEUROLOGICAL AND  
NEUROPSYCHIATRIC MANIFESTATIONS IN SYSTEMIC LUPUS-  
ERYTHEMATOSUS. 089134 13-15
- THE UNCONSCIOUS PATIENT FROM THE NEUROLOGICAL VIEWPOINT. 089212 13-15
- PERCUTANEOUS DEXAMETHASONE AND FUNCTIONAL REHABILITATION IN  
NEUROLOGICAL DISORDERS. 122393 13-11
- NEUROMUSCULAR**
- DIAZEPAM AND NEUROMUSCULAR BLOCKING DRUGS. 101525 13-03
- PHARMACOLOGICAL INTERACTION OF LORAZEPAM WITH THIOPENTONE  
SODIUM AND SKELETAL NEUROMUSCULAR BLOCKING DRUGS. 120410 13-03
- NEUROMYOTONIA**
- ELECTROCLINICAL STUDY OF A CASE OF NEUROMYOTONIA WITH  
MYOKYMIA, REACTING FAVORABLY TO CARBAMAZEPINE TREATMENT. 121796 13-13
- NEURON**
- STRUCTURE OF THE NEURON AND INTERNEURON LINKS IN THE BRAIN OF  
RATS UNDER THE EFFECT OF CAFFEINE AND PHENAMINE. 111137 13-03
- NEURONAL**
- MAINTENANCE OF NORADRENALINE IN NEURONAL CELL BODIES AND  
TERMINALS: EFFECT OF FREQUENCY OF STIMULATION. 105410 13-03
- NEURONE**
- CATECHOLAMINE DEPLETION AND ADRENERGIC NEURONE BLOCKADE:  
STUDIES WITH DEBRISOQUINE. 104011 13-03
- NEURONES**
- EFFECT OF TRICYCLIC ANTIDEPRESSANTS ON MONOAMINE RESPONSES  
OF SINGLE CORTICAL NEURONES. 087359 13-03
- SENSITIVITY TO HALOPERIDOL OF CAUDATE NEURONES EXCITED BY  
NIGRAL STIMULATION. 089026 13-03
- EFFECT OF INHIBITION OF CATECHOLAMINE SYNTHESIS ON CENTRAL  
CATECHOLAMINE-CONTAINING NEURONES IN THE DEVELOPING ALBINO  
RAT. 089441 13-03
- EFFECTS OF ALCOHOL ON CEREBELLAR AND VESTIBULAR NEURONES. 103654 13-03
- EFFECTS OF MICROIONTOPHORETIC APPLICATION OF IMIPRAMINE ON  
SINGLE NEURONES IN THE BRAIN STEM. 107962 13-03
- EFFECT OF MESCALINE ON SINGLE CORTICAL NEURONES. 108796 13-03
- POSSIBLE ROLE OF DOPAMINE CONTAINING NEURONES IN THE  
BEHAVIOURAL EFFECTS OF COCAINE. 109196 13-03
- NEURONS**
- DIFFERENTIAL EFFECTS OF D- AND L-AMPHETAMINE ON BEHAVIOR AND  
ON CATECHOLAMINE DISPOSITION IN DOPAMINE AND  
NOREPINEPHRINE CONTAINING NEURONS OF RAT BRAIN. 078134 13-04
- DOPAMINE NOREPINEPHRINE: ANOTHER REGULATORY STEP OF  
NOREPINEPHRINE SYNTHESIS IN CENTRAL NORADRENERGIC NEURONS. 082825 13-03
- MINOR TRANQUILLIZERS, STRESS AND CENTRAL CATECHOLAMINE  
NEURONS. 086808 13-03
- FLUORESCENCE MICROSCOPIC STUDY ON RAT BRAIN NEURONS  
AFFECTED BY HARMALINE ADMINISTRATION. 087212 13-03
- ACTIVATION OF BRAIN SEROTONIN METABOLISM BY HEAT: ROLE OF  
MIDBRAIN RAPHE NEURONS. 092374 13-03
- NOREPINEPHRINE CONTAINING NEURONS: SPONTANEOUS ACTIVITY  
DURING WAKING AND SLEEPING IN FREELY BEHAVING CATS  
(UNPUBLISHED PAPER). 092976 13-04
- FUNCTIONING OF IDENTIFIED NEURONS AND SYNAPSES IN ABDOMINAL  
GANGLION OF APLYSIA IN ABSENCE OF PROTEIN SYNTHESIS. 102512 13-03
- THE INFLUENCE OF LYSERGIC ACID DIETHYLAMIDE ON THE ACTIVITY OF  
SOLITARY NEURONS OF SOME CEREBRAL REGIONS. 107722 13-03
- THE EFFECT OF IMIPRAMINE-LIKE DRUGS AND ANTIHISTAMINE DRUGS  
ON UPTAKE MECHANISMS IN THE CENTRAL NORADRENALINE AND 5-  
HYDROXYTRYPTAMINE NEURONS. 107961 13-03
- CHANGES IN THE REACTIVITY OF NEURONS OF THE PROJECTION CORTEX  
UNDER THE EFFECT OF NEMBUTAL. 111816 13-03
- EFFECT OF PHENAMINE INDUCED INSOMNIA AND OF SUBSEQUENT SLEEP  
ON PROTEIN CONTENT IN THE NEURONS AND GLIAL CELLS OF THE  
SUPRAOPTIC AND RED NUCLEI OF THE BRAIN. 111831 13-03
- IMPORTANCE OF NERVOUS IMPULSE FLOW FOR THE NEUROLEPTIC  
INDUCED INCREASE IN AMINE TURNOVER IN CENTRAL DOPAMINE  
NEURONS. 120717 13-03
- EXCITATORY ACTIONS OF GABA AND OF INHIBITORY NEURONS. 125598 13-03
- NEUROPATHY**
- PERIPHERAL NEUROPATHY CAUSED BY ANTABUSE. 075092 13-13
- PERIPHERAL NEUROPATHY AND DISULFIRAM. 100056 13-15
- NEUROPHARMACOLOGIC**
- NEUROPHARMACOLOGIC ANALYSIS OF AHR-2277: A NEW  
PSYCHOTHERAPEUTIC AGENT. 106154 13-02
- NEUROPHARMACOLOGICAL**
- NEUROPHARMACOLOGICAL STUDIES OF IMIDAZOLE-4-ACETIC ACID  
ACTIONS IN THE MOUSE AND RAT. 082660 13-04
- NEUROPHARMACOLOGICAL PROPERTIES OF SU17595A, A  
CHLORPROMAZINE-LIKE CENTRAL NERVOUS SYSTEM DEPRESSANT. 098158 13-03
- ON THE REACTION OF FERTILIZED ECHINODERM EGGS TO  
NEUROPHARMACOLOGICAL DRUGS. 105726 13-03

# Subject Index

- NEUROPHARMACOLOGY**  
NEUROPHARMACOLOGY AND EXPERIMENTAL PSYCHIATRY: THE EVOLUTION OF A PROJECT - A PROGRESS REPORT. 077427 13-17
- NEUROPHYSIOLOGICAL**  
NEUROPHYSIOLOGICAL CORRELATES OF AFFECTIVE DISORDERS. 095943 13-13  
THE CENTRAL METABOLISM OF SEROTONIN IN THE CAT DURING INSOMNIA: A NEUROPHYSIOLOGICAL AND BIOCHEMICAL STUDY AFTER ADMINISTRATION OF P-CHLOROPHENYLALANINE OR DESTRUCTION OF THE RAPHE SYSTEM. 099261 13-03  
NEUROPHYSIOLOGICAL EFFECTS OF DIFFERENT ANESTHETICS IN UNCONSCIOUS MAN. 111343 13-13  
NEUROPHYSIOLOGICAL EFFECTS OF DIFFERENT ANESTHETICS IN CONSCIOUS MAN. 111344 13-13
- NEUROPSYCHIATRIC**  
PROBLEMS RAISED IN THE TREATMENT OF NEUROLOGICAL AND NEUROPSYCHIATRIC MANIFESTATIONS IN SYSTEMIC LUPUS-ERYTHEMATOSUS. 089134 13-15  
TREATMENT OF NEUROPSYCHIATRIC DISORDERS WITH PYRIDINE-BETA-CARBONIC ACID. PART II. 126008 13-11
- NEUROPSYCHOPATHOLOGY**  
NEUROPSYCHOPATHOLOGY RESEARCH GROUP: LABORATORY OF COMPARATIVE NEUROPSYCHOPATHOLOGY. 092317 13-04
- NEUROPSYCHOPHARMACOLOGICAL**  
A NEUROPSYCHOPHARMACOLOGICAL COMPARISON OF D-AMPHETAMINE, L-DOPA, AND COCAINE. 107045 13-03
- NEUROSECRETORY**  
NORADRENALINE AND ACETYLCHOLINE RESPONSES OF SUPRAOPTIC NEUROSECRETORY CELLS (UNPUBLISHED PAPER). 092379 13-03  
EFFECT OF RESERPINE ON THE HYPOTHALAMONEUROHYPOPHYSEAL NEUROSECRETORY SYSTEM. 111130 13-03
- NEUROSES**  
EXPERIENCE WITH A NEW PSYCHOTROPIC DRUG, OXAZOLAM, IN TREATMENT OF ANXIETY NEUROSES. 123050 13-10
- NEUROSIS**  
BIOCHEMICAL FACTORS IN ANXIETY NEUROSIS. 095007 13-17  
PHARMACOTHERAPY OF NEUROSIS - BENZODIAZEPINE. 123049 13-10
- NEUROTIC**  
ROLE OF BRAIN ACETYLCHOLINE AND DOPAMINE IN ACUTE NEUROTIC EFFECTS OF DD. 099652 13-05  
COMBINATION OF MEPROMAMATE AND BENACTYZINE (DEPROL) AND CONSTITUENTS IN NEUROTIC DEPRESSED OUTPATIENTS. 100208 13-10  
THE COMBINATION OF PROTRIPTYLINE AND OXAZEPAM IN DEPRESSED NEUROTIC GENERAL PRACTICE PATIENTS. 103626 13-10  
PART I. IMPROVEMENT CRITERIA IN DRUG TRIALS WITH NEUROTIC PATIENTS. 108484 13-10
- NEUROTRANSMITTER**  
AUTORADIOGRAPHY OF SOME SUSPECTED NEUROTRANSMITTER SUBSTANCES: GABA GLYCINE, GLUTAMIC ACID, HISTAMINE, DOPAMINE, AND L-DOPA. 109417 13-03
- NEUROTROPIC**  
EFFECT OF NEUROTROPIC DRUGS ON CORTICAL EVOKED POTENTIALS. 113480 13-03
- NEUTRALIZATION**  
NEUTRALIZATION OF EXTRAPYRAMIDAL SIDE-EFFECTS WITH METHIXENE. 095156 13-08
- NEURONES**  
STRUCTURE-ACTIVITY STUDIES ON A 5-HYDROXYTRYPTAMINE RECEPTOR OF HELIX-ASPERSA NEURONES. 120408 13-03
- NEW**  
PROBLEMS IN THE EVALUATION OF A NEW ANTIDEPRESSANT DRUG IN PRISON VOLUNTEERS. 070714 13-13  
DOET (2,5 DIMETHOXY-4-ETHYLAMPHETAMINE), A NEW PSYCHOTROPIC DRUG: EFFECTS OF VARYING DOSES IN MAN. 071566 13-12  
FENFLURAMINE, A NEW ANOREXIGENIC AGENT. 074150 13-07

# Psychopharmacology Abstracts

- MCGILL RECOGNIZES SPECIALITY OF PSYCHOPHARMACOLOGY BY ESTABLISHING NEW DEPARTMENT. 078127 13-17
- THE PHARMACOLOGIST - CLINICAL INVESTIGATOR DIALOGUE IN EVALUATION OF NEW PSYCHOTHERAPEUTIC DRUGS. 078956 13-07
- DOM (STP), A NEW HALLUCINOGENIC DRUG: SPECIFIC PERCEPTUAL CHANGES. 078958 13-12
- THYMOLEPTIC EFFECTS OF A NEW DIBENZODIAZEPINE DERIVATIVE. 087034 13-09
- QUANTITATIVE EEG ANALYSIS OF SINGLE-DOSE EFFECT RELATIONSHIPS IN NORMAL VOLUNTEERS OF PACINOX (CAPURIDE), A NEW ANTIANXIETY DRUG. 087487 13-10
- MOTOR DISORDERS INDUCED BY NEUROLEPTICS: A PROPOSED NEW CLASSIFICATION. 088201 13-15
- RESIN HEMOPERFUSION: A NEW TREATMENT FOR ACUTE DRUG INTOXICATION. 089039 13-16
- A CONTROLLED CLINICAL STUDY OF A NEW ANTIDEPRESSANT (TRAZODONE). 089066 13-10
- NEW RESEARCH ON CANNABIS. 093579 13-17
- SCH-12041: A NEW ANTIANXIETY AGENT. 097555 13-07
- THE DYSKINESIAS: A NEW THERAPEUTIC APPROACH. 098292 13-08
- REPORT ON THE USE OF A NEW GERIATRIC DRUG IN A HOME FOR THE AGED AND NURSING HOME. 098451 13-11
- CLINICAL EXPERIENCE WITH NOXIPTILINE, A NEW ANTIDEPRESSIVE AGENT. 098625 13-07
- GP-45795: A NEW DIBENZOTHIPIEPIN ANTIPSYCHOTIC AGENT. 099157 13-07
- EVALUATION OF A NEW HYPNOTIC AGENT: FLURAZEPAM HYDROCHLORIDE (DALMANE). 099933 13-07
- QUANTITATIVE POLYGRAPHIC EVALUATION OF EMOTIONAL TENSION IN THE STUDY OF A NEW BENZODIAZEPINE. 100537 13-07
- EFFECT OF THIAZOL-4-YLMETHOXYAMINE, A NEW INHIBITOR OF HISTAMINE BIOSYNTHESIS ON BRAIN HISTAMINE, MONOAMINE LEVELS AND BEHAVIOR. 101541 13-03
- PRELIMINARY STUDIES ON THE CENTRAL EFFECTS OF LORAZEPAM, A NEW BENZODIAZEPINE. 102214 13-07
- AN EVALUATION OF TOFENACINE (ELAMOL), A NEW DRUG FOR THE TREATMENT OF DEPRESSION. 102349 13-07
- NEW POSSIBILITIES OF CONTROLLING STATES OF UNREST OF A PSYCHOMOTOR OR CEREBROSCLECTIC NATURE IN INSTITUTIONAL GERIATRICS. 102393 13-11
- BLOCKADE OF NORADRENALINE UPTAKE BY 34276-BA, A NEW ANTIDEPRESSANT DRUG. 102696 13-03
- ACQUISITION OF NEW RESPONSES BY RATS DURING CHRONIC DEPRESSION OF ACETYLCHOLINESTERASE ACTIVITY. 103461 13-04
- RELAXATION TRANSFER IN ELECTRODERMAL ACTIVITY AS AFFECTED BY A NEW MINOR TRANQUILIZER (4306CB). 105006 13-14
- PHARMACOLOGICAL STUDIES ON NEW POTENT CENTRAL DEPRESSANTS, 8-CHLORO-6-PHENYL-4H-S-TRIAZOLOBENZODIAZEPINE (D-407A) AND ITS 1 METHYL ANALOGUE (D-65MT). 105392 13-02
- 1,3-BIS 4-(P-METHOXYPHENYL)PIPERAZINYL-2-PROPANOL (RO-8-2580): A NEW MONOAMINE DEPLETOR. 105408 13-02
- 4-BROMO-2,5 DIMETHOXYPHENYLISOPROPYLAMINE, A NEW CENTRALLY ACTIVE AMPHETAMINE ANALOG. 105535 13-07
- CLINICAL AND PHARMACOLOGICAL INVESTIGATION OF A NEW PSYCHOTROPIC DRUG SULPIRIDE (DOGMATIL). 105825 13-07
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN: II. INFLUENCE ON BEHAVIOR IN RATS. 105838 13-04
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN: I. THE ACTION ON THE CENTRAL NERVOUS SYSTEM IN RODENT 105839 13-02

- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN: III. ELECTROENCEPHALOGRAPHIC STUDY IN RABBITS.** 105840 13-03
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN: IV. ANTIADRENERGIC ACTION AND INFLUENCE ON BRAIN MONOAMINES.** 105841 13-03
- NEUROPHARMACOLOGIC ANALYSIS OF AHR-2277: A NEW PSYCHOTHERAPEUTIC AGENT.** 106154 13-02
- EVALUATION OF A NEW TRANQUILLIZER - WY-4036 - IN THE TREATMENT OF ANXIETY.** 107593 13-10
- EXPERIMENTAL AND CLINICAL INVESTIGATION OF THE NEW PSYCHOSTIMULATOR SYDNOCARB.** 107728 13-13
- ANTIDEPRESSANT OVERDOSAGE IN CHILDREN - A NEW MENACE.** 108014 13-15
- PARKINSONS DISEASE: A NEW APPROACH TO TREATMENT.** 110002 13-11
- LIDANIL - A NEW TRANQUILIZING AGENT IN THE CLINIC OF INTERNAL DISEASES.** 110474 13-07
- ON THE SELECTIVE EFFECT OF THE NEW ANTIDEPRESSANT FLUORACIZINE ON THE ACTIVITY OF PYRIDINE DEHYDROGENASES IN THE BRAIN OF RATS.** 111703 13-03
- CLINICAL STUDY ON A NEW PSYCHOPHARMACOLOGICAL AGENT; PIPERONYL.** 114476 13-11
- PHARMACOLOGY OF NEW MINOR TRANQUILIZERS, BENZODIAZEPINOXAZOLE DERIVATIVES.** 116385 13-02
- ELECTROPHYSIOLOGICAL STUDY OF THE ACTION OF A NEW BENZODIAZEPINE DERIVATIVE (ORF-8063) ON THE CENTRAL NERVOUS SYSTEM.** 117025 13-04
- EFFECT OF 7-BROMO-5-(2-PYRIDYL-3H-1,4 BENZODIAZEPINONE, BROMAZEPAM (RO-5-3350), A NEW MINOR TRANQUILIZER, ON PSYCHONEUROSIS WITH SPECIAL REFERENCE TO THE OBSSIVE-COMPULSIVE SYMPTOMS.** 118969 13-10
- EVIDENCE FOR A NEW TYPE OF DOPAMINE RECEPTOR STIMULATING AGENT.** 122547 13-03
- EXPERIENCE WITH A NEW PSYCHOTROPIC DRUG, OXAZOLAM, IN TREATMENT OF ANXIETY NEUROSES.** 123050 13-10
- A NEW GAS CHROMATOGRAPHIC METHOD FOR THE DEMONSTRATION OF CANNABIS INTAKE BY ANALYSIS OF BIOLOGICAL FLUIDS.** 123265 13-06
- BIOCHEMICAL AND PHARMACOLOGICAL PROPERTIES OF P-AMINO-GAMMA-MORPHOLINOBUTYROPHENONE (FG-5310), A NEW SELECTIVE MAO INHIBITOR.** 123272 13-03
- A COMPARISON OF FG-5310, A NEW SELECTIVE MONOAMINE OXIDASE INHIBITOR, AND OTHER MAO INHIBITORS ON THE BLOOD PRESSURE RESPONSE TO TYRAMINE.** 123287 13-03
- QUIPAZINE, A NEW TYPE OF ANTIDEPRESSANT AGENT.** 124103 13-02
- THE BEHAVIORAL EFFECTS OF A NEW PSYCHOACTIVE DRUG (D-CARBINE) ON A PASSIVE AVOIDANCE RESPONSE AND LOCOMOTION AND ITS INTERACTION WITH AMPHETAMINE.** 124104 13-02
- NEWBORN**
- LITHIUM TOXICITY IN A NEWBORN.** 077909 13-15
- PLACENTAL TRANSFER OF DIAZOXIDE AND ITS HAZARDOUS EFFECT ON THE NEWBORN.** 086938 13-03
- WHOLE-BODY AND REGIONAL BRAIN DISTRIBUTION OF DIAZEPAM IN NEWBORN RHESUS MONKEYS.** 103651 13-03
- TREATMENT OF HYPERBILIRUBINEMIA IN PREMATURE AND NEWBORN INFANTS WITH PHENOBARBITAL AND LIGHT THERAPY.** 125867 13-13
- NIACIN**
- CANADIAN NIACIN STUDY - II.** 109398 13-08
- NIALAMIDE**
- LORDOSIS BEHAVIOR IN MALE RATS TREATED WITH ESTROGEN IN COMBINATION WITH TETRABENZAZINE AND NIALAMIDE.** 125165 13-04
- NIAMID**
- EXPERIENCE WITH THE USE OF NIAMID IN PSYCHIATRIC PRACTICE.** 102797 13-17
- NICOTINAMIDE**
- NICOTINIC ACID AND NICOTINAMIDE IN THE TREATMENT OF CHRONIC SCHIZOPHRENIA.** 102833 13-08
- NICOTINE**
- EFFECTS OF LEARNING, AMPHETAMINE AND NICOTINE ON THE LEVEL AND SYNTHESIS OF BRAIN NORADRENALINE IN RATS.** 078012 13-03
- EFFECTS OF NICOTINE ON SELF-STIMULATION IN RATS.** 082722 13-04
- MODIFICATIONS OF THE ALARM PATTERN BY NICOTINE.** 086902 13-04
- EFFECTS OF CHRONIC ADMINISTRATION OF NICOTINE ON DRUG-INDUCED HYPNOSIS IN MICE.** 102188 13-04
- EFFECTS OF ALPHA-METHYLTYROSINE AND ADRENERGIC BLOCKING AGENTS ON THE FACILITATING ACTION OF AMPHETAMINE AND NICOTINE ON LEARNING IN RATS.** 104373 13-04
- EFFECTS OF NICOTINE, NICOTINE MONOMETHIODIDE, LOBELINE, CHLORDIAZEPOXIDE, MEPROBAMATE AND CAFFEINE ON A DISCRIMINATION TASK IN LABORATORY RATS.** 104433 13-04
- CHOLINERGIC MECHANISMS AND AVOIDANCE BEHAVIOR ACQUISITION: EFFECTS OF NICOTINE IN MICE.** 104462 13-04
- EFFECT OF CHRONIC ADMINISTRATION OF NICOTINE ON THE CONCENTRATIONS OF ADRENAL ENZYMES INVOLVED IN THE SYNTHESIS AND METABOLISM OF ADRENALINE.** 104535 13-03
- CNS EFFECT OF NICOTINE AS THE DISCRIMINATIVE STIMULUS FOR THE RAT IN A T-MAZE.** 108732 13-04
- STUDIES ON THE MECHANISM OF AVOIDANCE FACILITATION BY NICOTINE.** 112314 13-04
- NICOTINIC**
- COMBINED ADMINISTRATION OF THIORIDAZINE AND NICOTINIC ACID IN THE TREATMENT OF GERIATRIC PATIENTS.** 078942 13-11
- A SYSTEMATIC CLINICAL STUDY WITH NICOTINIC ACID, THIORIDAZINE, FLUOXYMESTERONE AND THEIR COMBINATIONS IN HOSPITALIZED GERIATRIC PATIENTS: THERAPEUTIC RESULTS AND CHANGES IN PSYCHOMETRIC TEST PERFORMANCE.** 098507 13-11
- COMBINED ADMINISTRATION OF THIORIDAZINE, NICOTINIC ACID, AND FLUOXYMESTERONE IN THE TREATMENT OF GERIATRIC PATIENTS.** 098601 13-13
- NICOTINIC ACID AND PSYCHIATRY.** 102832 13-17
- NICOTINIC ACID AND NICOTINAMIDE IN THE TREATMENT OF CHRONIC SCHIZOPHRENIA.** 102833 13-08
- ANTAGONISM OF INTRACEREBRALLY INDUCED NICOTINIC CONVULSIONS IN MICE: A METHOD FOR MEASURING THE CENTRAL ANTINICOTINIC ACTIVITY OF CNS ACTING AGENTS.** 104807 13-06
- LEVODOPA NICOTINIC ACID INTERACTION IN PSYCHIATRIC PATIENTS.** 107286 13-08
- NICTITATING**
- CHLORDIAZEPOXIDE AND AVERSIVE CONDITIONING: EFFECTS OF ACQUISITION AND PERFORMANCE OF THE CONDITIONED NICTITATING MEMBRANE RESPONSE IN THE RABBIT.** 078527 13-04
- MODIFICATION BY A TRICYCLIC SERIES OF COMPOUNDS OF THE NORADRENALINE EFFECT ON THE CAT NICTITATING MEMBRANE.** 089326 13-03
- NIGHT**
- A PROPOSAL FOR A CONSISTENT NIGHT THERAPY FOR THE MENTAL PATIENT, CONJOINTLY, A CAUSISTIC CONTRIBUTION TO A DAY NIGHT THERAPY FOR DEPRESSIONS WITH PSYCHOTROPIC DRUGS.** 089067 13-09
- DIFFERENT EFFECTS OF TRIFLUOPERAZINE WHEN ADMINISTERED DAYTIME OR NIGHT.** 107755 13-08
- REDUCING NIGHT SEDATION IN PSYCHOGERIATRIC WARDS.** 110156 13-17
- NIGRAL**
- SENSITIVITY TO HALOPERIDOL OF CAUDATE NEURONES EXCITED BY NIGRAL STIMULATION.** 089026 13-03
- EFFECTS OF NIGRAL LESION AND CHLORPROMAZINE TREATMENT ON TYROSINE HYDROXYLASE ACTIVITY IN CORPUS-STRIATUM OF THE RAT.** 123281 13-03
- NIKETHAMIDE**
- NIKETHAMIDE AND DOXAPRAM EFFECTS ON PENTAZOCINE AND MORPHINE INDUCED RESPIRATORY DEPRESSION.** 105407 13-03

# Subject Index

- NIMH**  
THE NIMH BIOMEDICAL PROGRAM OF MARIHUANA RESEARCH.  
(UNPUBLISHED PAPER). 126570 13-17
- NITRAZEPAM**  
THE EFFECT OF SOLVENTS ON THE POTENCY OF CHLORDIAZEPoxide,  
DIAZEPAM, MEDAZEPAM AND NITRAZEPAM. 077908 13-02  
EFFECTS OF QUINALBARBITONE (SECOBARBITAL) AND NITRAZEPAM ON  
THE EEG IN MAN: QUANTITATIVE INVESTIGATIONS. 082826 13-13  
BULLOUS LESIONS IN NITRAZEPAM OVERDOSAGE. 087150 13-15  
EFFECTS OF AMYLOBARBITONE AND NITRAZEPAM ON THE  
ELECTRODERMOGRAM AND OTHER FEATURES OF SLEEP. 099118 13-14  
NITRAZEPAM IN ENURESIS. 100256 13-11  
RESPIRATORY DEPRESSION CAUSED BY NITRAZEPAM IN PATIENTS WITH  
RESPIRATORY FAILURE. 100495 13-15  
EFFECTS OF HALOPERIDOL, TRIFLUOPERIDOL, NITRAZEPAM AND  
CHLORDIAZEPoxide UPON CONDITIONED MIDBRAIN BEHAVIORAL  
RESPONSES. 106394 13-04  
ON THE URINARY EXCRETION OF NITRAZEPAM AND ITS METABOLITES. 117456 13-16
- NITRITE**  
EFFECT OF SODIUM NITRITE ON MONOAMINE OXIDASE ACTIVITY IN RAT  
LIVER AND BRAIN. 100100 13-03
- NITROUS**  
THE EFFECTS OF NITROUS OXIDE ON THE AUDITORY EVOKED RESPONSE  
IN A REACTION TIME TASK. 105011 13-14
- NOBRIUM**  
MEDAZEPAM (NOBRIUM) IN THE THERAPY OF PSYCHONEUROSES. 087135 13-10
- NOCEPTIVE**  
ACTIVITY OF MAJOR ANALGESICS ON MOTOR NOCEPTIVE RESPONSES  
IN DECEREBRATE MICE. 105010 13-03
- NONAGGRESSIVE**  
AMPHETAMINE TOXICITY IN GENETICALLY AGGRESSIVE AND  
NONAGGRESSIVE MICE. 087119 13-05
- NONCATALEPTOGENIC**  
CLOZAPINE, A NONCATALEPTOGENIC NEUROLEPTIC FOR THE TREATMENT  
OF AGITATED CONDITION BEHAVIORAL DISORDERS. 094970 13-14
- NONHALLUCINOGENS**  
HALLUCINOGENS AND NONHALLUCINOGENS: A COMPARISON OF THE  
EFFECTS ON 5-HYDROXYTRYPTAMINE AND NORADRENALINE. 077892 13-03
- NONPARANOID**  
PHENOTHIAZINE EFFECTS ON AUDITORY SIGNAL DEFLECTION IN  
PARANOID AND NONPARANOID SCHIZOPHRENICS. 106918 13-08
- NONREWARDS**  
AMYTAL AND THE SMALL TRIAL PARTIAL REINFORCEMENT EFFECT:  
STIMULUS PROPERTIES OF EARLY TRIAL NONREWARDS. 078938 13-04
- NONSTEREOTYPED**  
THE EFFECT OF DRUGS ON STEREOTYPED AND NONSTEREOTYPED  
OPERANT BEHAVIORS IN RETARDATES. 104572 13-14
- NONSTEROID**  
COMPARATIVE PSYCHOPHARMACOLOGIC INVESTIGATION OF  
CRYOGENINE, CERTAIN NONSTEROID ANTIINFLAMMATORY  
COMPOUNDS, LUPINE ALKALOIDS AND CYPROHEPTADINE. 091281 13-02
- NOTOLERANT**  
N-DEMETHYLATION OF N-14C-METHYL-CODEINE IN MORPHINE TOLERANT  
AND NOTOLERANT RATS AND MICE. MEDICINE. 077878 13-03
- NORADRENALINE**  
IMPORTANCE OF NORADRENALINE FOUND IN A FUNCTIONAL POOL IN  
MAINTAINING SPONTANEOUS LOCOMOTOR ACTIVITY IN RATS. 077424 13-04  
HALLUCINOGENS AND NONHALLUCINOGENS: A COMPARISON OF THE  
EFFECTS ON 5-HYDROXYTRYPTAMINE AND NORADRENALINE. 077892 13-03  
EFFECTS OF LEARNING, AMPHETAMINE AND NICOTINE ON THE LEVEL  
AND SYNTHESIS OF BRAIN NORADRENALINE IN RATS. 078012 13-03  
SPECIFICITY OF ACTION OF 6-HYDROXYDOPAMINE IN PERIPHERAL CAT  
TISSUES: DEPLETION OF NORADRENALINE WITHOUT DEPLETION OF 5-  
HYDROXYTRYPTAMINE. 088486 13-03

# Psychopharmacology Abstracts

- DEMONSTRATION OF 3,4 DIHYDROXYBENZOIC(14C) ACID AND  
(14C)VANILIC ACID AFTER ADMINISTRATION OF  
(14C)NORADRENALINE IN THE RAT. 088637 13-03
- DEPLETION OF BRAIN NORADRENALINE AND DOPAMINE BY 6-  
HYDROXYDOPAMINE. 088706 13-03
- MODIFICATION BY A TRICYCLIC SERIES OF COMPOUNDS OF THE  
NORADRENALINE EFFECT ON THE CAT NICTITATING MEMBRANE. 089326 13-03
- NORADRENALINE AND ACETYLCHOLINE RESPONSES OF SUPRAOPTIC  
NEUROSECRETORY CELLS (UNPUBLISHED PAPER). 092379 13-03
- BLOCKADE OF NORADRENALINE UPTAKE BY 34276-BA, A NEW  
ANTIDEPRESSANT DRUG. 102696 13-03
- EFFECT OF 6-HYDROXYDOPAMINE ON RAT HEART NORADRENALINE. 104172 13-03
- MAINTENANCE OF NORADRENALINE IN NEURONAL CELL BODIES AND  
TERMINALS: EFFECT OF FREQUENCY OF STIMULATION. 105410 13-03
- SODIUM RETENTION AND NORADRENALINE SENSITIVITY OF THE PUPILS  
AND OF THE CARDIOVASCULAR SYSTEM. 106149 13-03
- THE EFFECT OF MESCALINE AND BUFOTENINE ON SOME CENTRAL  
ACTIONS OF NORADRENALINE. 106151 13-03
- EFFECT OF HASHISH SMOKE SUBLIMATE ON HYPOTHALAMIC  
NORADRENALINE STUDIED BY THE FLUORESCENCE METHOD. 106486 13-03
- THE EFFECT OF IMIPRAMINE-LIKE DRUGS AND ANTIHISTAMINE DRUGS  
ON UPTAKE MECHANISMS IN THE CENTRAL NORADRENALINE AND 5-  
HYDROXYTRYPTAMINE NEURONS. 107961 13-03
- EFFECT OF TRIPHASINE AND CHLORPROMAZINE ON NORADRENALINE  
AND ATP CONCENTRATION IN THE GRANULATION AND SUPERNATANT  
FRACTIONS OF THE BRAIN STEM. 111293 13-03
- INCREASED RATE OF NORADRENALINE CIRCULATION IN THE  
HYPOTHALAMUS AFTER DEMEDULLATION OF THE ADRENAL GLANDS. 111704 13-03
- THE EFFECT OF BETA-PHENETHYLAMINE ON NORADRENALINE  
CONCENTRATIONS IN GUINEA-PIG BRAIN. 112287 13-03
- FORMATION OF (3H)NORADRENALINE AND (3H)DOPAMINE IN THE BRAIN  
AND HEART OF THE RAT FETUS. 115310 13-03
- EFFECT OF RESERPINE ON RELEASE OF (3H)NORADRENALINE,  
(3H)DOPAMINE AND (3H)METARAMINOL FROM FIELD STIMULATED  
RAT IRIS. 118563 13-03
- FACILITATION OF NORADRENALINE UPTAKE BY LITHIUM. 119016 13-03
- EFFECT OF THE MONOAMINE OXIDASE INHIBITOR PARGYLINE ON THE  
UPTAKE OF LABELLED NORADRENALINE BY THE CATS SPLEEN. 120413 13-03
- CORRELATION OF THE RECOVERY OF THE GRANULAR UPTAKE STORAGE  
MECHANISM AND THE NERVE IMPULSE INDUCED RELEASE OF  
(3H)NORADRENALINE AFTER RESERPINE. 120819 13-03
- ANALYSIS OF THE SUPERSENSITIVITY TO NORADRENALINE INDUCED BY  
AMPHETAMINE IN THE ISOLATED VAS-DEFERENS OF THE RAT. 121065 13-03
- ANTAGONISM BY PROPRANOLOL OF THE INHIBITORY EFFECT OF  
PHENOXYBENZAMINE ON NORADRENALINE UPTAKE IN VIVO. 122553 13-03
- SUPERSENSITIVITY OF CENTRAL NORADRENALINE RECEPTORS AFTER  
RESERPINE. 125409 13-03
- INFLUENCE OF COCAINE AND PHENOXYBENZAMINE ON NORADRENALINE  
UPTAKE AND RELEASE. 125959 13-03
- NORADRENERGIC**  
DOPAMINE NOREPINEPHRINE, ANOTHER REGULATORY STEP OF  
NOREPINEPHRINE SYNTHESIS IN CENTRAL NORADRENERGIC NEURONS. 082825 13-03
- POSSIBLE ETIOLOGY OF SCHIZOPHRENIA: PROGRESSIVE DAMAGE TO THE  
NORADRENERGIC REWARD SYSTEM BY 6-HYDROXYDOPAMINE. 088491 13-04
- NORADRENOCROME**  
DOUBLE-BLIND STUDY ON THE CORRELATIONS OF URINARY ELIMINATION  
OF CATECHOLAMINES AND THEIR METABOLITES (SUPPOSED TO COME  
THROUGH ADRENOCROME, NORADRENOCROME AND  
DOPACHROME) WITH CLINICAL STATE OF 50 PATIENTS UNDER  
DIFFERENT PSYCHOPHARMACOLOGIC DRUG. 087003 13-13

**NOREPINEPHRINE**

- NOREPINEPHRINE: REVERSAL OF ANOREXIA IN RATS WITH LATERAL HYPOTHALAMIC DAMAGE. 077680 13-04
- INHIBITION OF ALDEHYDE DEHYDROGENASE BY 2-CHLOROACETOPHENONE AND THE RESULTANT EFFECTS OF THE CATABOLISM OF NOREPINEPHRINE ON BRAIN. 077726 13-03
- THE SUBCELLULAR DISTRIBUTION OF ENDOGENOUS AND EXOGENOUS SEROTONIN IN BRAIN TISSUE: COMPARISON OF SYNAPTOSOMES STORING SEROTONIN, NOREPINEPHRINE, AND GAMMA-AMINOBUTYRIC ACID. 077855 13-03
- DIFFERENTIAL EFFECTS OF D- AND L-AMPHETAMINE ON BEHAVIOR AND ON CATECHOLAMINE DISPOSITION IN DOPAMINE AND NOREPINEPHRINE CONTAINING NEURONS OF RAT BRAIN. 078134 13-04
- THE EFFECT OF METHAMPHETAMINE ON THE NOREPINEPHRINE AND 5-HYDROXYTRYPTAMINE CONTENTS IN ELEVEN RAT BRAIN REGIONS. 080632 13-03
- INHIBITION OF NOREPINEPHRINE BIOSYNTHESIS BY CHLOROPROMAZINE IN THE GUINEA-PIG VAS-DEFERENS. 082784 13-03
- THE EFFECTS OF ALPHA-METHYLTYROSINE ON SLEEP AND BRAIN NOREPINEPHRINE IN CATS. 082787 13-04
- DOPAMINE NOREPINEPHRINE: ANOTHER REGULATORY STEP OF NOREPINEPHRINE SYNTHESIS IN CENTRAL NORADRENERGIC NEURONS. 082825 13-03
- MICROIONTOPHORETIC RELEASE OF NOREPINEPHRINE FROM MICROPIPETTES. 082862 13-06
- MODIFICATION BY PSYCHOTROPIC DRUGS OF THE CYCLIC ADENOSINE MONOPHOSPHATE RESPONSE TO NOREPINEPHRINE IN RAT BRAIN. 082864 13-03
- A SIMPLE PROCEDURE FOR CALCULATING THE SYNTHESIS RATE OF NOREPINEPHRINE, DOPAMINE AND SEROTONIN IN RAT BRAIN. 082879 13-06
- CHRONIC DOPA TREATMENT: EFFECT ON THE CONCENTRATION OF NOREPINEPHRINE IN THE HEARTS AND BRAINS OF RATS. 083161 13-03
- CHANGES IN NOREPINEPHRINE TURNOVER IN RAT BRAIN DURING CHRONIC ADMINISTRATION OF IMIPRAMINE AND PROTRIPTYLINE: A POSSIBLE EXPLANATION FOR THE DELAY IN ONSET OF CLINICAL ANTIDEPRESSANT EFFECTS. 086251 13-03
- NOREPINEPHRINE CONTAINING NEURONS: SPONTANEOUS ACTIVITY DURING WAKING AND SLEEPING IN FREELY BEHAVING CATS (UNPUBLISHED PAPER). 092976 13-04
- PLASMA CORTICOSTERONE CHANGES FOLLOWING ALTERATIONS IN BRAIN NOREPINEPHRINE AND SEROTONIN. 098290 13-03
- THE EFFECT OF HASHISH EXTRACT ON THE NOREPINEPHRINE IN RABBIT BRAIN. 098557 13-03
- PHARMACOLOGICAL COMPARISON OF PROSTAGLANDIN-F-2-ALPHA, SEROTONIN AND NOREPINEPHRINE ON CEREBROVASCULAR TONE OF MONKEY. 099653 13-03
- NOREPINEPHRINE STIMULATED INCREASE OF CYCLIC AMP LEVELS IN DEVELOPING MOUSE BRAIN CELL CULTURES. 100103 13-03
- THE EFFECTS OF DELTA9-TETRAHYDROCANNABINOL ON THE METABOLISM OF NOREPINEPHRINE IN RAT BRAIN. 104139 13-03
- ON THE ROLE OF NOREPINEPHRINE IN THE ANORECTIC EFFECT OF D-AMPHETAMINE IN MICE. 104326 13-03
- THE ROLE OF BRAIN NOREPINEPHRINE IN THE ANOREXIC EFFECTS OF DEXTROAMPHETAMINE AND MONOAMINE OXIDASE INHIBITORS IN THE RAT. 104574 13-03
- THE EFFECT OF COCAINE ON CATECHOL-O-METHYLTRANSFERASE AND ON THE RESPONSE TO NOREPINEPHRINE OF RABBIT AORTIC STRIPS. 105391 13-03
- EFFECT OF NOREPINEPHRINE ON THE CONCENTRATION OF ADENOSINE 3,5 MONOPHOSPHATE OF RAT PINEAL GLAND IN ORGAN CULTURE. (UNPUBLISHED PAPER). 106059 13-03
- BRAIN NOREPINEPHRINE AND SEROTONIN LEVELS FOLLOWING REM SLEEP DEPRIVATION IN THE RAT. 106492 13-03
- ASPECTS OF THE GASTRIC ACID ANTISECRETORY ACTIVITY OF 3,3-DIMETHYL-1-(3-METHYLAMINOPROPYL)-1-PHENYLPHALAN: A BLOCKER OF NOREPINEPHRINE UPTAKE. 106526 13-03

- THE INFLUENCE OF AMIZYL AND DIPHACYL ON PROCESSES OF CAPTURE AND DISCHARGE OF NOREPINEPHRINE. 107723 13-03
- EFFECT OF DIETHYLAMINOETHYL DIPHENYLPROPYLACETATE HYDROCHLORIDE (SKF-525A) ON THE NOREPINEPHRINE DEPLETING ACTIONS OF D-AMPHETAMINE. 108286 13-03
- COMPOUNDS ANTAGONISTIC TO NOREPINEPHRINE RETENTION BY RAT BRAIN HOMOGENATES. 108289 13-03
- RELATIONSHIP BETWEEN DEPLETION OF NOREPINEPHRINE IN THE BRAIN AND THE HYPOTHERMIC EFFECT OF APOMORPHINE IN MICE. 113523 13-03
- A RAPID, SIMPLIFIED PROCEDURE FOR SIMULTANEOUS ASSAY OF NOREPINEPHRINE, DOPAMINE, AND 5-HYDROXYTRYPTAMINE FROM DISCRETE BRAIN AREAS. 117510 13-06
- NORMAL**
- BLOOD-BRAIN BARRIER TO H3-GAMMA-AMINOBUTYRIC ACID IN NORMAL AND AMINOXYACETIC ACID TREATED ANIMALS. 082756 13-03
- QUANTITATIVE EEG ANALYSIS OF SINGLE-DOSE EFFECT RELATIONSHIPS IN NORMAL VOLUNTEERS OF PACINOX (CAPURIDE), A NEW ANTIANXIETY DRUG. 087487 13-10
- EFFECTS OF 5-HYDROXYTRYPTOPHAN ON THE SLEEP OF NORMAL HUMAN SUBJECTS. 098149 13-14
- SOME CARDIOVASCULAR EFFECTS OF MARIJUANA SMOKING IN NORMAL VOLUNTEERS. 100418 13-13
- INHIBITION OF NORMAL GROWTH BY CHRONIC ADMINISTRATION OF DELTA9-TETRAHYDROCANNABINOL. 101935 13-05
- EFFECTS OF DIAZEPAM ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS. 104138 13-04
- THE EFFECTS OF TWO TETRAHYDROCANNABINOLS, (DELTA9-THC AND DELTA8-THC) ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS. 106393 13-04
- EEG PROFILES OF FENFLURAMINE, AMOBARBITAL AND DEXTROAMPHETAMINE IN NORMAL VOLUNTEERS. 107630 13-16
- INVESTIGATIONS ON THE ELECTROLYTE CONTENTS OF ANATOMICALLY DEFINED PARTS OF THE BRAIN IN NORMAL AND LITHIUM - TREATED RATS. 123279 13-03
- NORMEPERIDINE**
- STRUCTURE ACTIVITY RELATIONSHIPS OF NORMEPERIDINE CONGENERS ON CHOLINESTERASE SYSTEMS IN VITRO AND ANALGESIA IN VIVO. 086822 13-03
- NORMETHADONE**
- IDENTIFICATION AND QUANTITATIVE DETERMINATION OF SOME METABOLITES OF METHADONE, ISOMETHADONE AND NORMETHADONE. 077906 13-05
- THE INFLUENCE OF METHYL SUBSTITUTION ON THE N-DEMETHYLATION AND N-OXIDATION OF NORMETHADONE IN ANIMAL SPECIES. 106423 13-03
- NORTH-CAROLINA**
- BEHAVIOR AND HOW IT IS AFFECTED BY DRUGS IS BEING INVESTIGATED BY THE NORTH-CAROLINA DEPARTMENT OF MENTAL HEALTH BY USING SPIDERS AS LABORATORY ANIMALS. 086126 13-04
- NORTRIPTYLINE**
- GAS CHROMATOGRAPHY MASS SPECTROMETRY OF NORTRIPTYLINE IN BODY FLUIDS OF MAN. 077931 13-16
- PHARMACOLOGICAL STUDIES OF FLUPHENAZINE AND NORTRIPTYLINE IN COMBINATION IN MAN. 089325 13-13
- RESULTS OF DEPRESSION TREATMENT WITH NORTRIPTYLINE: CRITICAL CLINICAL CONTRIBUTION. 096310 13-09
- RELATIONSHIP BETWEEN PLASMA LEVEL AND THERAPEUTIC EFFECT OF NORTRIPTYLINE. 105536 13-13
- THE EFFECT OF RESERPINE AND NORTRIPTYLINE ON THE EXCRETION OF 17-HYDROXYSTEROIDS. 106095 13-13
- PHARMACOKINETICS AND BIOLOGICAL EFFECTS OF NORTRIPTYLINE IN MAN. 112297 13-13
- INTERACTION OF IMIPRAMINE, DESMETHYLIMIPRAMINE, NORTRIPTYLINE, AND 1-NAPHTHOL WITH MICROSOMAL PREPARATIONS. 122576 13-03

# Subject Index

# Psychopharmacology Abstracts

- GENETIC CONTROL OF NORTRIPTYLINE KINETICS IN MAN - A STUDY OF RELATIVES OF PROPOSITI WITH HIGH PLASMA CONCENTRATION. 122578 13-13
- STUDIES ON THE METABOLISM AND PHARMACOKINETICS OF NORTRIPTYLINE AND DESMETHYLIMIPRAMINE IN MAN. 122579 13-13
- NOR2-CHLORPROMAZINE**  
NOR2-CHLORPROMAZINE SULPHOXIDE, A PINK-SPOT PRODUCED IN VIVO AND IN VITRO FROM CHLORPROMAZINE. 089324 13-03
- SYNTHESIS OF POSSIBLE METABOLITES OF CHLORPROMAZINE. IV. 7-HYDROXY-NOR1- AND NOR2-CHLORPROMAZINE SULFOXIDE. 094791 13-01
- NOVERIL**  
NOVERIL - AN ANTIDEPRESSANT AGENT. 089301 13-09
- DIBENZAZEPINE (NOVERIL) IN THE TREATMENT OF DEPRESSIVE STATES. 118130 13-09
- CLINICAL EVALUATION OF DIBENZAZEPINE (NOVERIL) IN THE TREATMENT OF DEPRESSIVE SYNDROMES. 118209 13-09
- NOVOCAIN**  
ADMINISTRATION OF NOVOCAIN IN SOME COMATOSE STATES FOLLOWING INTOXICATION. 118128 13-15
- NOXIPTILINE**  
CLINICAL EXPERIENCE WITH NOXIPTILINE, A NEW ANTIDEPRESSIVE AGENT. 098625 13-07
- NOYLEPTIL**  
EXPERIENCE WITH ADMINISTRATION OF NOYLEPTIL FOR THE TREATMENT OF EMOTIONAL DISORDERS AND BEHAVIORAL DISTURBANCES IN EPILEPTIC PATIENTS. 102795 13-11
- NSD-1055**  
EFFECT OF AMINOGUANIDINE, CHLORPROMAZINE AND NSD-1055 ON GASTRIC SECRETION AND ULCERATION IN THE SHAY RAT. 089442 13-03
- NUCLEI**  
EFFECT OF PHENAMINE INDUCED INSOMNIA AND OF SUBSEQUENT SLEEP ON PROTEIN CONTENT IN THE NEURONS AND GLIAL CELLS OF THE SUPRAOPTIC AND RED NUCLEI OF THE BRAIN. 111831 13-03
- NUCLEIC**  
EFFECTS OF CHLORPROMAZINE ON CELL WALL BIOSYNTHESIS AND INCORPORATION OF OROTIC ACID INTO NUCLEIC ACIDS IN BACILLUS-MEGATERIUM. 088517 13-03
- NUCLEOTIDES**  
ENHANCEMENT OF FATTY ACID OXIDATION AND MEDIUM CHAIN FATTY ACYL COENZYME A SYNTHETASE BY ADENINE NUCLEOTIDES IN RAT HEART HOMOGENATES. 089434 13-03
- NUCLEUS**  
EFFECTS OF MORPHINE ON CHOLINE ACETYLTRANSFERASE LEVELS IN THE CAUDATE NUCLEUS OF THE RAT. 089050 13-03
- RED NUCLEUS FAST ACTIVITY AND SIGNS OF PARADOXICAL SLEEP APPEARING DURING THE EXTINCTION OF EXPERIMENTAL SEIZURES. 098151 13-03
- THE RELEASE OF 3H-DOPAMINE FROM CAT BRAIN FOLLOWING ELECTRICAL STIMULATION OF THE SUBSTANTIA-NIGRA AND CAUDATE NUCLEUS. 107046 13-03
- EFFECTS OF AMPHETAMINE ON SINGLE CELL ACTIVITY IN A CATECHOLAMINE NUCLEUS, THE LOCUS COERULEUS. 111661 13-03
- THE DEVELOPMENT OF SYNTHETIC TECHNIQUES TO INTRODUCE A FUNCTIONALIZED CARBON SUBSTITUENT REGIOSELECTIVELY INTO THE BENZENE RING OF AN INDOLE NUCLEUS. 112783 13-01
- INCREASE OF MORPHINE INDUCED ANALGESIA BY STIMULATION OF THE NUCLEUS RAPHE DORSALIS. 125653 13-03
- NULLIPAROUS**  
REPLACEMENT OF PROGESTERONE WITH A PHENOTHIAZINE IN THE INDUCTION OF MATERNAL BEHAVIOR IN THE OVARECTOMIZED NULLIPAROUS RAT. 095383 13-04
- NURSING**  
BEHAVIOR PROBLEMS IN NURSING HOME PATIENTS: TREATMENT WITH THIORIDAZINE. 086894 13-14
- REPORT ON THE USE OF A NEW GERIATRIC DRUG IN A HOME FOR THE AGED AND NURSING HOME. 098451 13-11
- NUTMEG**  
NUTMEG POISONING - A CASE REPORT. 089179 13-15
- O-ALLYLPHENOXY**  
THE INFLUENCE OF 1-(O-ALLYLPHENOXY)-3 ISOPROPYLAMINO-2-PROPANOL HYDROCHLORIDE (ALPRENOLOL) ON THE CENTRAL NERVOUS SYSTEM OF THE RAT. 124105 13-03
- OBJECTS**  
MOTIVATED BEHAVIORS PRODUCED BY INCREASED AROUSAL IN THE PRESENCE OF GOAL OBJECTS. 095549 13-04
- OBSERVATION**  
AN ADDITIONAL OBSERVATION ON METHYLPHENIDATE IN HYPERACTIVE CHILDREN. 085408 13-15
- OBSERVATION ON THE RANGE OF EFFICACY OF L-DOPA. 123464 13-13
- FURTHER OBSERVATION ON THE ENHANCEMENT BY MORPHINE OF THE CENTRAL DESCENDING INHIBITORY INFLUENCE ON SPINAL SENSORY TRANSMISSION. 125358 13-03
- OBSERVATIONS**  
THE EFFECT OF DRUGS ON HYPERACTIVITY IN CHILDREN WITH SOME OBSERVATIONS OF CHANGES IN MINERAL METABOLISM. 098894 13-14
- OBSERVATIONS ABOUT THE USE OF PSYCHOPHARMACA IN CHILD PSYCHIATRY. 101076 13-17
- OBSERVATIONS ON THE EFFECT OF LEVODOPA ON TARDIVE LINGUAL-FACIAL-BUCAL DYSKINESIA. 103204 13-15
- OBSERVATIONS ON CHANGES IN THE CLINICAL PHENOMENOLOGY OF MANIC PHASES UNDER EXTENDED LITHIUM THERAPY. 103797 13-14
- PLAYROOM OBSERVATIONS OF HYPERACTIVE CHILDREN ON MEDICATION. 106308 13-11
- PHARMACOLOGICAL OBSERVATIONS ON THE VAS-DEFERENS OF THE MOUSE. 120409 13-03
- OBSERVATIONS ON THE EFFECT OF TEGRETOL IN SALAAM SEIZURES IN CHILDREN. 123890 13-07
- CLINICAL OBSERVATIONS ON THE COMPOSITE TREATMENT OF PARKINSONS SYNDROME WITH L-DOPA AND THE DECARBOXYLASE INHIBITOR RO-4-4602. 125996 13-11
- OBSESSIONAL**  
CHLORIMIPRAMINE IN OBSESSIONAL STATES. 103625 13-10
- TREATMENT OF OBSESSIONAL ILLNESSES AND PHOBIC ANXIETY STATES WITH CLOMIPRAMINE. 105889 13-10
- OBSESSIVE**  
ATROPINE THERAPY IN OBSESSIVE STATES. 108852 13-10
- OBSESSIVE-COMPULSIVE**  
EFFECT OF 7-BROMO-5-(2-PYRIDYL)-3H-1,4 BENZODIAZEPINONE, BROMAZEPAM (RO-5-3350), A NEW MINOR TRANQUILIZER, ON PSYCHONEUROSIS WITH SPECIAL REFERENCE TO THE OBSESSIVE-COMPULSIVE SYMPTOMS. 118969 13-10
- OBSTETRICS**  
FURTHER EXPERIENCE WITH FORREST TESTS IN OBSTETRICS. 106091 13-16
- OCTOCLOTHEPIN**  
N-SUBSTITUTED ANALOGUES OF NEUROLEPTICS OF THE OCTOCLOTHEPIN SERIES: RELATIONS BETWEEN STRUCTURE AND ACTIVITY. 105824 13-02
- COMPARISON OF PROCHLORPERAZINE, PERPHENAZINE, AND OCTOCLOTHEPIN IN ERETHISMIC OLIGOPHRENIA. 105834 13-14
- OCTOCLOTHEPIN**  
THE EFFECT OF OCTOCLOTHEPIN ON THE EPINEPHRINE AGGREGATION TEST. 106097 13-15
- OCULOMOTOR**  
THE ACTION OF SEDATIVES ON BRAIN STEM OCULOMOTOR SYSTEMS IN MAN. 082861 13-13
- ODORS**  
THE PREPUTIAL GLANDS AS A SOURCE OF AGGRESSION PROMOTING ODORS IN MICE. 088571 13-04
- OFFICE**  
THE TREATMENT OF PSYCHONEUROTIC STATES: A STUDY OF THIORIDAZINE IN AN OFFICE PRACTICE. 078131 13-11

**OFFSPRING**

EFFECTS OF CHRONIC TRIFLUOPERAZINE ADMINISTRATION IN MULTIPLE DOSAGES ON RAT OFFSPRING BEHAVIOR.

102824 13-04

EFFECT OF ALDRIN ON THE CONDITION AVOIDANCE RESPONSE AND ELECTROSHOCK SEIZURE THRESHOLD OF OFFSPRING FROM ALDRIN TREATED MOTHER.

104791 13-04

**OFFSPRINGS**

THE SAFETY TEST OF 10-CHLORO-11B-(2-CHLOROPHENYL)-2,3,5,6,7,11B-HEXAHYDROBENZO(6,7) 1,4 DIAZEPINOXAZOLONE (CS-370) - II. EFFECT OF CS-370 UPON THE DEVELOPMENT OF PRE-NATAL AND POST-NATAL OFFSPRINGS OF EXPERIMENTAL ANIMALS.

116154 13-03

**OLIGOPHRENIA**

COMPARISON OF PROCHLORPERAZINE, PERPHENAZINE, AND OCTOCLOTHEPIN IN ERETHISMIC OLIGOPHRENIA.

105834 13-14

**ONE-WAY**

EFFECTS OF CHRONIC AND ACUTE MORPHINE ADMINISTRATION ON ONE-WAY AVOIDANCE TRAINING.

079769 13-14

EFFECT OF AN RNA RICH EXTRACT ON ACQUISITION OF A ONE-WAY AVOIDANCE RESPONSE IN RATS.

099686 13-04

**ONES**

THE SAD ONES.

093694 13-04

**ONTOGENY**

ONTOGENY OF AMPHETAMINE ANOREXIA AND INSULIN HYPERPHAGIA IN THE RAT.

106797 13-04

**OPACITIES**

LONG-TERM TREATMENT WITH NEUROLEPTIC DRUGS AND EYE OPACITIES.

079832 13-14

LONG-TERM EVOLUTION OF THE SIDE-EFFECT LENS OPACITIES INDUCED BY CHLORPROMAZINE PROLONGED THERAPY.

089189 13-15

**OPEN**

OPEN TRIAL EVALUATION OF KETO-IMIPRAMINE.

083163 13-07

CLINICAL INVESTIGATION OF DOXEPIN IN DEPRESSED PATIENTS. PILOT OPEN STUDY, CONTROLLED DOUBLE-BLIND TRIAL VERSUS IMIPRAMINE, AND ALL-NIGHT POLYGRAPHIC STUDY.

099031 13-10

**OPEN-FIELD**

AN EXAMINATION OF THE EFFECT OF CENTRAL NERVOUS SYSTEM STIMULANT AND ANTIDEPRESSANT DRUGS ON OPEN-FIELD PERFORMANCE IN RATS.

078937 13-04

EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CANNABIS-SATIVA AND (-)DELTA9-TRANS-TETRAHYDROCANNABINOL ON THE BEHAVIOR OF RATS IN AN OPEN-FIELD ARENA.

125251 13-04

**OPERANT**

RHE EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CHLORPROMAZINE ON THE ACQUISITION AND EXTINCTION OF POSITIVELY REINFORCED OPERANT RESPONSES.

088679 13-04

INTERACTION OF SEROTONIN ANTAGONISTS WITH HARMALINE INDUCED CHANGES IN OPERANT BEHAVIOR AND BODY TEMPERATURE IN THE RAT.

098160 13-03

THE EFFECT OF DRUGS ON STEREOTYPED AND NONSTEREOTYPED OPERANT BEHAVIORS IN RETARDATES.

104572 13-14

IMPORTANCE OF CATECHOLAMINE RELEASE BY NERVE IMPULSES FOR FREE OPERANT BEHAVIOR.

106757 13-04

EFFECTS OF MARIHUANA EXTRACT ON THE OPERANT BEHAVIOR OF CHIMPANZEES.

107628 13-04

INTERACTIONS OF MORPHINE AND NALORPHINE WITH PHYSOSTIGMINE ON OPERANT BEHAVIOR IN THE RAT.

107631 13-04

EXTINCTION OF OPERANT RESPONSES BY RATS UNDER THE EFFECTS OF CANNABIS-SATIVA EXTRACT.

110036 13-04

THE EFFECTS OF NALOXONE, CHLORPROMAZINE, AND HALOPERIDOL PRETREATMENT ON LEVALLORPHAN INDUCED DISRUPTION OF RATS OPERANT BEHAVIOR.

111145 13-04

MODIFICATION OF AN OPERANT CONDITIONING IN RAT AFTER A SUBCUTANEOUS INJECTION OF HISTAMINE.

119914 13-04

INTERACTION OF AMPHETAMINE AND FOOD DEPRIVATION ON A FOOD MOTIVATED OPERANT.

120960 13-04

**OPIATE**

THE EFFECT OF P-CHLOROPHENYLALANINE ON OPIATE INDUCED RUNNING, ANALGESIA, TOLERANCE AND PHYSICAL DEPENDENCE IN MICE.

082781 13-04

ALCOHOL DEPENDENCE AND OPIATE DEPENDENCE: LACK OF RELATION IN MICE.

082828 13-03

EFFECTS OF SEPTAL AREA AND CINGULATE CORTEX LESIONS ON OPIATE ADDICTION BEHAVIOR IN RATS.

085333 13-04

SOME PHARMACOLOGICAL PERSPECTIVES ON THE OPIATE NARCOTICS WITH SPECIAL CONSIDERATION OF HEROIN.

111518 13-14

**OPIOID**

EFFECTS OF OPIOID ANALGESICS AND ANTAGONISTS ON THE EEG (UNPUBLISHED PAPER).

088360 13-14

TOLERANCE TO OPIOID NARCOTICS: TIME COURSE AND REVERSIBILITY OF PHYSICAL DEPENDENCE IN MICE.

098926 13-03

**OPIOIDS**

ACTION OF PICRIC ACID ON THE EFFECTS OF SOME DRUGS ACTING ON THE CENTRAL NERVOUS SYSTEM, WITH SPECIAL REFERENCE TO OPIOIDS.

103655 13-03

**OPIUM**

OPIUM ALKALOIDS IX: DETECTION OF COREXIMINE IN PAPAVER-SOMNIFERUM L. BASED ON ITS BIOSYNTHESIS FROM RETICULINE.

086577 13-01

**OPRIPRAMOL**

A COMPARISON BETWEEN DIAZEPAM, DIXYRAZINE, OPRIPRAMOL AND PLACEBO IN ANXIETY STATES.

101410 13-10

**OPTIC**

THE EFFECTS OF CHRONIC ADMINISTRATION OF SOME CHOLINERGIC AND ADRENERGIC DRUGS ON THE ACTIVITY OF CHOLINE ACETYLTRANSFERASE IN THE OPTIC LOBES OF THE CHICK BRAIN.

100219 13-03

**OPTICAL**

OPTICAL ACTIVITY OF LSD DNA MIXTURES.

101769 13-03

**ORAL**

PSYCHOSIS INDUCED BY ORAL CONTRACEPTION.

089329 13-15

ACUTE ORAL TOXICITY OF CANNABINOIDS IN VARIOUS SPECIES (UNPUBLISHED PAPER).

093082 13-05

ORAL CONTRACEPTIVES, DEPRESSION, AND LIBIDO.

100131 13-15

URINARY EXCRETION OF PERPHENAZINE AND ITS SULFOXIDE DURING ADMINISTRATION IN ORAL AND LONG-ACTING INJECTABLE FORM.

102185 13-15

SOME FACTORS CONTROLLING ORAL MORPHINE INTAKE IN RATS.

102195 13-04

ANALGESIC ACTIVITY OF ORAL AND INTRAMUSCULAR PROFADOL.

104366 13-11

ETHYL-ALCOHOL: BLOOD LEVELS AND PERFORMANCE DECREMENTS AFTER ORAL ADMINISTRATION TO MAN.

104378 13-14

THE EXCRETION OF HYDROXYAMYLORBARBITONE IN MAN AFTER ORAL ADMINISTRATION OF AMYLORBARBITONE AND HYDROXYAMYLORBARBITONE.

122552 13-13

**OREXIGENIC**

DOUBLE-BLIND STUDY OF THE OREXIGENIC EFFECT OF A SEROTONIN INHIBITOR IN ANOREXIC CHILDREN.

125289 13-13

**ORF-8063**

ELECTROPHYSIOLOGICAL STUDY OF THE ACTION OF A NEW BENZODIAZEPINE DERIVATIVE (ORF-8063) ON THE CENTRAL NERVOUS SYSTEM.

117025 13-04

**ORGAN**

STIMULATION OF (14C) SEROTONIN SYNTHESIS FROM (14C) TRYPTOPHAN BY Mescaline IN RAT PINEAL ORGAN CULTURES.

088702 13-03

ACCEPTANCE OF ORGAN LAMBS BY TRANQUILIZED EWES (OVIS-ARIES).

100048 13-04

EFFECT OF NOREPINEPHRINE ON THE CONCENTRATION OF ADENOSINE 3,5 MONOPHOSPHATE OF RAT PINEAL GLAND IN ORGAN CULTURE. (UNPUBLISHED PAPER).

106059 13-03

# Subject Index

# Psychopharmacology Abstracts

## ORGANIC

- EEG CHANGES AFTER PSILOCYBIN IN ORGANIC BRAIN LESIONS. 106000 13-13
- ACUTE ORGANIC BRAIN SYNDROME WITH PROPRANOLOL. 125503 13-15

## ORGANISM

- DISTRIBUTION IN THE ORGANISM AND THE ELIMINATION OF LITHIUM. 107726 13-03

## ORGANOPHOSPHORUS

- A CASE OF ORGANOPHOSPHORUS INDUCED PSYCHOSIS. 074828 13-15

## ORGANS

- DETERMINATION OF AMITRIPTYLINE AND METABOLITES IN VARIOUS ORGANS AFTER FATAL POISONING. 117457 13-15
- EFFECT OF THANATOLOGIC CHANGES ON THE IMIPRAMINE CONTENT OF INTERNAL ORGANS. 126160 13-03

## ORIGIN

- FLUPENTHIXOL (FLUANXOL) IN THE TREATMENT OF APATHIC SYNDROMES OF SCHIZOPHRENIC ORIGIN. 089300 13-08
- THIOETHIXENE (NAVANE) IN THE TREATMENT OF APATHIC SYNDROMES OF SCHIZOPHRENIC ORIGIN. 089303 13-08

## ORIGINS

- CRITICAL REVIEW OF ANNE E. CALDWELL'S ORIGINS OF PSYCHOPHARMACOLOGY FROM CPZ TO LSD. 105554 13-17

## OROTATE

- EFFECT OF INTRAVENTRICULARLY APPLIED SODIUM OROTATE ON A CONDITIONED AVOIDANCE RESPONSE OF THE RAT. 119690 13-04

## OROTIC

- EFFECTS OF CHLORPROMAZINE ON CELL WALL BIOSYNTHESIS AND INCORPORATION OF OROTIC ACID INTO NUCLEIC ACIDS IN BACILLUS-MEGATERIUM. 088517 13-03
- THE INFLUENCE OF OROTIC ACID ON THE RETROGRADE AMNESIA CAUSED BY ECS. 103945 13-04

## ORTHOMOLECULAR

- ORTHOMOLECULAR PSYCHIATRY. 099013 13-17
- ORTHOMOLECULAR TREATMENT: A BIOCHEMICAL APPROACH TO TREATMENT OF SCHIZOPHRENIA. 101158 13-08

## OSMOLALITY

- AGGRESSION AND FLIGHT REACTIONS INDUCED BY CONTINUOUS INCREASE OF BLOOD OSMOLALITY. 098300 13-04

## OUABAIN

- MODIFICATION OF THE ANTINOCICEPTIVE ACTIVITY OF MORPHINE BY CENTRALLY ADMINISTERED OUABAIN AND DOPAMINE. 110188 13-03

## OUTCOME

- LITHIUM CARBONATE TREATMENT IN THE MANIC-DEPRESSIVE AND PREDICTABILITY OF OUTCOME OF TREATMENT. 086166 13-15

## OUTLINES

- OUTLINES OF THE MANAGEMENT OF COMMON PSYCHIATRIC CRISES AND EMERGENCIES IN THE COMMUNITY. 096018 13-17

## OUTPATIENT

- TREATMENT WITH DIPIPERON IN AN OUTPATIENT DEPARTMENT FOR CHILDREN AND ADOLESCENTS. 100562 13-11

## OUTPATIENTS

- KETIPRAMINE FUMARATE AS COMPARED TO IMIPRAMINE IN DEPRESSED OUTPATIENTS. 077823 13-09
- A CLINICAL COMPARISON OF MOLINDONE HYDROCHLORIDE WITH TRIFLUOPERAZINE IN PSYCHOTIC OUTPATIENTS. 078941 13-08
- CLOMACRAM AND CHLORPROMAZINE IN PSYCHOTIC OUTPATIENTS: A CONTROLLED STUDY. 086521 13-08
- EXPERIENCE WITH LITHIUM PROPHYLAXIS OF RECURRENT EMOTIONAL DISORDERS IN A PSYCHIATRIC OUTPATIENTS CLINIC. 089129 13-17
- GLOBAL RATINGS COMPARED TO RATING SCALES IN EVALUATING TRIFLUOPERAZINE AMOBARBITAL IN ANXIOUS PSYCHONEUROTIC OUTPATIENTS. 098093 13-10
- COMBINATION OF MEPROMAMATE AND BENACTYZINE (DEPROL) AND CONSTITUENTS IN NEUROTIC DEPRESSED OUTPATIENTS. 100208 13-10

## OVARIAN

- MONOAMINES AND OVARIAN HORMONE LINKED SEXUAL AND EMOTIONAL CHANGES: A REVIEW. 110462 13-17

## OVARIETOMIZED

- REPLACEMENT OF PROGESTERONE WITH A PHENOTHIAZINE IN THE INDUCTION OF MATERNAL BEHAVIOR IN THE OVARIETOMIZED NULLIPAROUS RAT. 095383 13-04
- THE ACUTE EFFECTS OF ESTROGEN AND PROGESTERONE ON THE MONOAMINE LEVELS OF THE BRAIN OF OVARIETOMIZED RATS. 104790 13-03
- EFFECT OF RESERPINE ON PLASMA LH LEVELS IN OVARIETOMIZED AND CYCLING PROESTRUS RATS. 125330 13-03

## OVER-THE-COUNTER

- ARE OVER-THE-COUNTER SLEEP MEDICATIONS EFFECTIVE? ALL-NIGHT EEG STUDIES. 079234 13-14

## OVERDOSAGE

- BULLOUS LESIONS IN NITRAZEPAM OVERDOSAGE. 087150 13-15
- ANTIDEPRESSANT OVERDOSAGE IN CHILDREN - A NEW MENACE. 108014 13-15

## OVERVIEW

- ANTIANDROGEN THERAPY WITH CYPOTERONE ACETATE IN CHILD AND ADOLESCENT PSYCHIATRY. AN OVERVIEW OF RESULTS ACHIEVED. 125703 13-11

## OVIS-ARIES

- ACCEPTANCE OF ORGAN LAMBS BY TRANQUILIZED EWES (OVIS-ARIES). 100048 13-04

## OVULATION

- NEONATAL ADMINISTRATION OF ANDROSTENEDIONE, TESTOSTERONE OR TESTOSTERONE PROPIONATE: EFFECTS ON OVULATION, SEXUAL RECEPTIVITY AND AGGRESSIVE BEHAVIOR IN FEMALE MICE. 088581 13-04

## OXAFUMAZINE

- PHARMACOLOGICAL STUDY OF A NEWLY DERIVED NEUROLEPTIC: OXAFUMAZINE. 094620 13-02
- A CLINICAL STUDY OF OXAFUMAZINE: ITS PLACE AMONG NEUROLEPTIC DRUGS. 097797 13-08

## OXANDROLONE

- ANABOLIC ACTION AND SIDE-EFFECTS OF OXANDROLONE IN 34 MENTAL PATIENTS. 088629 13-15

## OXAZEPAM

- OXAZEPAM IN ALLERGIC CONDITIONS. 073607 13-11
- THE COMBINATION OF PROTRIPTYLINE AND OXAZEPAM IN DEPRESSED NEUROTIC GENERAL PRACTICE PATIENTS. 103626 13-10
- ACUTE EFFECT OF MEDAZEPAM (15MG), OXAZEPAM (20MG), AND DIAZEPAM (10MG) ON VERBAL ASSOCIATIONS. 105916 13-14
- A STUDY OF THE INDUCTION EFFECT OF PHENOBARBITAL, DIAZEPAM, OXAZEPAM IN THE DOG. 123293 13-03

## OXAZOLAM

- EFFECTS OF OXAZOLAM AS A MEDICATION BEFORE ANESTHESIA. 123046 13-14
- EFFECTS OF OXAZOLAM AS A MEDICATION BEFORE ANESTHESIA. 123047 13-13
- EXPERIENCE WITH A NEW PSYCHOTROPIC DRUG, OXAZOLAM, IN TREATMENT OF ANXIETY NEUROSES. 123050 13-10

## OXIDASE

- SEROTONIN ACCUMULATION AFTER MONOAMINE OXIDASE INHIBITION. 082792 13-03
- EFFECTS OF MONOAMINE OXIDASE INHIBITORS AND RESERPINE ON BRAIN AMINES IN ALTITUDE EXPOSED RATS. 085727 13-13
- STUDIES IN VIVO ON THE RELATIONSHIP BETWEEN BRAIN TRYPTOPHAN, BRAIN 5-HT SYNTHESIS AND HYPERACTIVITY IN RATS TREATED WITH A MONOAMINE OXIDASE INHIBITOR AND L-TRYPTOPHAN. 087124 13-03
- EFFECTS OF IMIPRAMINE, DESIPRAMINE AND MONOAMINE OXIDASE INHIBITORS ON THE METABOLISM AND PSYCHOMOTOR STIMULANT ACTIONS OF D-AMPHETAMINE IN MICE. 089027 13-04
- THE HAZARDS OF USE OF MONOAMINE OXIDASE INHIBITORS IN DISTURBED ADOLESCENTS. 089080 13-15
- TRICYCLIC ANTIDEPRESSANTS AND MONOAMINE OXIDASE INHIBITORS. 095945 13-09
- MONOAMINE OXIDASE INHIBITORS. 099170 13-15

- CATECHOL-O-METHYLTRANSFERASE AND MONOAMINE OXIDASE ACTIVITIES IN RAT SUBMAXILLARY GLAND: EFFECTS OF LIGATION, SYMPATHECTOMY AND SOME DRUGS. 099645 13-03
- EFFECT OF SODIUM NITRITE ON MONOAMINE OXIDASE ACTIVITY IN RAT LIVER AND BRAIN. 100100 13-03
- ANXIETY STATE OR MASKED DEPRESSION? A STUDY BASED ON THE ACTION OF MONOAMINE OXIDASE INHIBITORS. 100791 13-10
- TREATMENT OF INTRACTABLE MARCOLEPSY WITH A MONOAMINE OXIDASE INHIBITOR. 103248 13-14
- THE ROLE OF BRAIN NOREPINEPHRINE IN THE ANOREXIC EFFECTS OF DEXTROAMPHETAMINE AND MONOAMINE OXIDASE INHIBITORS IN THE RAT. 104574 13-03
- PLASMA MONOAMINE OXIDASE ACTIVITY IN REGULARLY MENSTRUATING WOMEN AND IN AMENORRHEIC WOMEN RECEIVING CYCLIC TREATMENT WITH ESTROGENS AND A PROGESTIN. 104616 13-13
- MONOAMINE OXIDASE: AN APPROXIMATION OF TURNOVER RATES. 105950 13-03
- STUDY WITH MESCALINE-8-C14 IN MICE: EFFECT OF AMINE OXIDASE INHIBITORS ON METABOLISM. 107959 13-03
- MONOAMINE OXIDASE IN SYMPATHETIC NERVES: A TRANSMITTER SPECIFIC ENZYME TYPE. 108792 13-03
- INHIBITORY EFFECT OF CHLORPROMAZINE ON THE SYNDROME OF HYPERACTIVITY PRODUCED BY L-TRYPTOPHAN OR 5-METHOXY-N,N-DIMETHYLTRYPTAMINE TREATED WITH A MONOAMINE OXIDASE INHIBITOR. 108795 13-03
- EFFECT OF MONOAMINE OXIDASE INHIBITORS ON QUALITATIVE ALTERATIONS IN ENZYMATIC PROPERTIES OF MITOCHONDRIAL MONOAMINE OXIDASES. 118566 13-03
- EFFECT OF THE MONOAMINE OXIDASE INHIBITOR PARGYLINE ON THE UPTAKE OF LABELLED NORADRENALINE BY THE CATS SPLEEN. 120413 13-03
- POTENTIATION OF THE CARDIOVASCULAR EFFECTS OF SOME CATECHOLAMINES BY A MONOAMINE OXIDASE INHIBITOR. 120417 13-13
- INTERACTIONS BETWEEN CATECHOLAMINES AND TRICYCLIC AND MONOAMINE OXIDASE INHIBITOR ANTIDEPRESSIVE AGENTS IN MAN. 120418 13-13
- A COMPARISON OF FG-5310, A NEW SELECTIVE MONOAMINE OXIDASE INHIBITOR, AND OTHER MAO INHIBITORS ON THE BLOOD PRESSURE RESPONSE TO TYRAMINE. 123287 13-03
- OXIDASES**
- EFFECT OF MONOAMINE OXIDASE INHIBITORS ON QUALITATIVE ALTERATIONS IN ENZYMATIC PROPERTIES OF MITOCHONDRIAL MONOAMINE OXIDASES. 118566 13-03
- OXIDATION**
- ENHANCEMENT OF FATTY ACID OXIDATION AND MEDIUM CHAIN FATTY ACYL COENZYME A SYNTHETASE BY ADENINE NUCLEOTIDES IN RAT HEART HOMOGENATES. 089434 13-03
- A SOURCE OF ERROR IN THE ESTIMATION OF VANILLYLMADELIC ACID IN RAT URINE USING PERIODATE OXIDATION (UNPUBLISHED PAPER). 092893 13-06
- OXIDATIVE**
- OXIDATIVE METABOLISM OF MESCALINE IN THE CENTRAL NERVOUS SYSTEM - II. OXIDATIVE DEAMINATION OF MESCALINE AND 2,3,4-TRIMETHOXY-BETA-PHENYLETHYLAMINE BY DIFFERENT MOUSE BRAIN AREA IN VITRO. 102734 13-03
- EFFECTS OF CHLORDIAZEPoxide AND DIAZEPAM ON RESPIRATION AND OXIDATIVE PHOSPHORYLATION IN RAT BRAIN MITOCHONDRIA. 108284 13-03
- PHENYLACETONE OXIME - AN INTERMEDIATE IN THE OXIDATIVE DEAMINATION OF AMPHETAMINE. 108398 13-03
- CHANGES IN THE ACTIVITY OF OXIDATIVE ENZYMES IN THE BRAIN OF RATS UNDER THE EFFECT OF TRIFLUOPRAZINE (STELAZINE). 113522 13-03
- OXIDE**
- THE EFFECTS OF NITROUS OXIDE ON THE AUDITORY EVOKED RESPONSE IN A REACTION TIME TASK. 105011 13-14
- OXIME**
- PHENYLACETONE OXIME - AN INTERMEDIATE IN THE OXIDATIVE DEAMINATION OF AMPHETAMINE. 108398 13-03
- OXIMES**
- METABOLISM OF AMPHETAMINES TO OXIMES AS A ROUTE TO DEAMINATION. 087115 13-03
- OXYGEN**
- ELEVATION OF BRAIN GABA BY PARGYLINE: A POSSIBLE MECHANISM FOR PROTECTION AGAINST OXYGEN TOXICITY. 106920 13-03
- THE EFFECT OF LOCAL ANESTHETICS ON THE CENTRAL NERVOUS SYSTEM TOXICITY OF HYPERBARIC OXYGEN. 122540 13-03
- OXYGENATION**
- SUSCEPTIBILITY TO AUDIOGENIC STIMULI INDUCED BY HYPERBARIC OXYGENATION AND VARIOUS NEUROACTIVE AGENTS. 119724 13-03
- OXYPERTINE**
- OXYPERTINE AND THIOTHIXENE IN NEWLY ADMITTED SCHIZOPHRENIC PATIENTS. 077932 13-08
- A TECHNIQUE IN THE EVALUATION OF PSYCHOTROPIC MEDICATION BASED ON A PATIENT DEMAND SCHEDULE: COMPARISON OF THE EFFICACY OF OXYPERTINE, DIAZEPAM AND PLACEBO IN ANXIETY. 100538 13-10
- INTRASTRIATAL INJECTION OF QUATERNARY BUTYROPHENONES AND OXYPERTINE: NEUROLEPTIC EFFECT IN RATS. 104374 13-04
- COMPARISON OF DOSE DEPENDENT DEPLETION OF SOME MONOAMINES IN RAT BRAINS BY MEANS OF RESERPINE AND OXYPERTINE. 126103 13-03
- OXYPHENYLBUTAZONE**
- DELAYED OXYPHENYLBUTAZONE ABSORPTION BY SOME TRICYCLIC COMPOUNDS IN THE RAT. 103650 13-03
- OXYPROTHEPIN**
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN: II. INFLUENCE ON BEHAVIOR IN RATS. 105838 13-04
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN: I. THE ACTION ON THE CENTRAL NERVOUS SYSTEM IN RODENT 105839 13-02
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN: III. ELECTROENCEPHALOGRAPHIC STUDY IN RABBITS. 105840 13-03
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN: IV. ANTIANDRENERGIC ACTION AND INFLUENCE ON BRAIN MONOAMINES. 105841 13-03
- P-AMINO-GAMMA-MORPHOLINO-BUTYROPHENONE**
- BIOCHEMICAL AND PHARMACOLOGICAL PROPERTIES OF P-AMINO-GAMMA-MORPHOLINO-BUTYROPHENONE (FG-5310), A NEW SELECTIVE MAO INHIBITOR. 123272 13-03
- P-BROMOMETHOAMPHETAMINE**
- CROSS-TOLERANCE BETWEEN P-METHOXYPHENYLETHYLAMINE (PMEA), 3,4-DEMETHOXYPHENYLETHYLAMINE (DMPEA) AND P-BROMOMETHOAMPHETAMINE (PBMA, V111). 123270 13-04
- P-BROMOMETHYLAMPHETAMINE**
- SOME NEUROLOGICAL EFFECTS OF AMPHETAMINE, METHYLAMPHETAMINE AND P-BROMOMETHYLAMPHETAMINE IN THE RAT. 074843 13-03
- P-CHLOROAMPHETAMINE**
- P-CHLOROAMPHETAMINE: SPECIES DIFFERENCES IN THE RATE OF DISAPPEARANCE AND THE LOWERING OF CEREBRAL SEROTONIN. 077869 13-03
- COMPARATIVE EFFECTS OF P-CHLOROAMPHETAMINE AND AMPHETAMINE ON METABOLISM AND IN VIVO RELEASE OF 3H-NOREPINEPHRINE IN THE HYPOTHALAMUS. 086814 13-03
- INDUCTION OF BIZARRE BEHAVIOUR IN RATS BY P-CHLOROAMPHETAMINE, A SEROTONIN DEPLETOR, AFTER REPEATED DRUG ADMINISTRATION. 104793 13-04
- P-CHLOROPHENYLALANINE**
- THE EFFECT OF P-CHLOROPHENYLALANINE ON OPIATE INDUCED RUNNING, ANALGESIA, TOLERANCE AND PHYSICAL DEPENDENCE IN MICE. 082781 13-04
- THE CENTRAL METABOLISM OF SEROTONIN IN THE CAT DURING INSOMNIA: A NEUROPHYSIOLOGICAL AND BIOCHEMICAL STUDY AFTER ADMINISTRATION OF P-CHLOROPHENYLALANINE OR DESTRUCTION OF THE RAPHE SYSTEM. 099261 13-03

## Subject Index

## Psychopharmacology Abstracts

- P-CHLOROPHENYLALANINE EFFECTS ON A CONDITIONED EMOTIONAL RESPONSE IN RATS.** 100565 13-04
- HOMOSEXUAL ACTIVITY IN MALE RATS AFTER P-CHLOROPHENYLALANINE: EFFECTS OF HYPOPHYSECTOMY AND TESTOSTERONE.** 102096 13-04
- MATING BEHAVIOR IN THE MALE RAT TREATED WITH P-CHLOROPHENYLALANINE METHYL ESTER ALONE AND IN COMBINATION WITH PARGYLINE.** 104431 13-04
- EFFECTS OF BUFOTENINE AND P-CHLOROPHENYLALANINE ON STRESS INDUCED BEHAVIOR.** 106491 13-03
- A SELECTIVE EFFECT OF P-CHLOROPHENYLALANINE ON FIXED-RATIO RESPONDING.** 106689 13-04
- EFFECT OF P-CHLOROPHENYLALANINE ON AVOIDANCE CONDITIONING AND ITS INTERACTION WITH AMPHETAMINE.** 110960 13-03
- P-CL-PHENYLALANINE**  
**BEHAVIOURAL EFFECTS OF D-AMPHETAMINE IN YOUNG CHICKS TREATED WITH P-CL-PHENYLALANINE.** 103953 13-04
- P-HYDROXYAMPHETAMINE**  
**BEHAVIORAL EFFECTS OF DOPAMINE AND P-HYDROXYAMPHETAMINE INJECTED INTO CORPUS-STRIATUM OF RATS.** 085234 13-04
- P-METHOXYPHENYL**  
**1,3-BIS 4-(P-METHOXYPHENYL)PIPERAZINYL-2-PROPANOL (RO-8-2580): A NEW MONOAMINE DEPLETOR.** 105408 13-02
- P-METHOXYPHENYLETHYLAMINE**  
**CROSS-TOLERANCE BETWEEN P-METHOXYPHENYLETHYLAMINE (PMEA), 3,4-DEMETHOXYPHENYLETHYLAMINE (DMPEA) AND P-BROMOMETHOAMPHETAMINE (PBMA, V111).** 123270 13-04
- P-NITROBENZOIC**  
**METABOLISM OF CHLORPROMAZINE AND P-NITROBENZOIC ACID IN THE LIVER, INTESTINE AND KIDNEY OF THE HUMAN FETUS.** 088540 13-13
- P-NITROMETHYLAMPHETAMINE**  
**EFFECT OF P-NITROMETHYLAMPHETAMINE ON BIOGENIC AMINES AND THEIR AMINO ACID PRECURSORS IN RAT BRAIN.** 108794 13-03
- PACINOX**  
**QUANTITATIVE EEG ANALYSIS OF SINGLE-DOSE EFFECT RELATIONSHIPS IN NORMAL VOLUNTEERS OF PACINOX (CAPURIDE), A NEW ANTIANXIETY DRUG.** 087487 13-10
- PAIN**  
**A STRAIN GAUGE PAIN STIMULATOR.** 077930 13-16  
**LESIONS IN THE MEDIAL FOREBRAIN BUNDLE: RELATIONSHIP BETWEEN PAIN SENSITIVITY AND TELENCEPHALIC CONTENT OF SEROTONIN.** 086171 13-03  
**MEPROBAMATE THERAPY FOR THE MYOFASCIAL PAIN DYSFUNCTION (MPD) SYNDROME: A DOUBLE-BLIND EVALUATION.** 089881 13-17  
**PERCEPTION AND TOLERANCE OF PAIN AS A MEASURE OF ANTIPSYCHOTIC TREATMENT.** 121259 13-08  
**ACTION AND ROLE OF SULPIRIDE IN THE TREATMENT OF ABDOMINAL PAIN SYNDROMES ASSOCIATED WITH PSYCHIATRIC PROBLEMS.** 121849 13-17
- PAIRED**  
**SUPPRESSION OF FIGHTING BEHAVIOUR IN RABBITS BY PAIRED EMERGENCE FROM ANESTHESIA.** 095364 13-04
- PALATABILITY**  
**D-AMPHETAMINE AND PALATABILITY OF A SACCHARIN SOLUTION.** 088071 13-04
- PALMITOYL**  
**EFFECT OF PALMITOYL ETHANOLAMIDE ON THE CENTRAL NERVOUS SYSTEM.** 105998 13-02
- PANCREAS**  
**EFFECT OF CHLORPROMAZINE, DESMETHYLIMIPRAMINE AND LITHIUM ON DOPAMINE UPTAKE IN THE RAT PANCREAS.** 103312 13-03
- PANEL**  
**PANEL SANCTIONS AMPHETAMINES FOR HYPERKINETIC CHILDREN.** 089087 13-14
- PAPAVER-SOMNIFERUM**  
**OPIMUM ALKALOIDS IX: DETECTION OF COREXIMINE IN PAPAVER-SOMNIFERUM L. BASED ON ITS BIOSYNTHESIS FROM RETICULINE.** 086577 13-01
- PAPAVERINE**  
**THE EFFECT OF PAPAVERINE ON PATIENTS WITH CEREBRAL ARTERIOSCLEROSIS.** 086936 13-14
- PAPIO-PAPIO**  
**BEHAVIORAL AND ELECTROGRAPHIC EFFECTS OF D-LYSERGIC ACID DIETHYLAMIDE (LSD-25) ON THE PHOTSENSITIVE PAPIO-PAPIO.** 086702 13-03  
**EFFECTS OF PSILOCYBIN, DIMETHYLTRYPTAMINE, MESCALINE AND VARIOUS LYSERGIC ACID DERIVATIVES ON THE EEG AND ON PHOTICALLY INDUCED EPILEPSY (PAPIO-PAPIO).** 109620 13-03
- PARA-CHLOROPHENYLALANINE**  
**THE EFFECT OF PARA-CHLOROPHENYLALANINE ON SPONTANEOUS LOCOMOTOR ACTIVITY IN THE RAT.** 082758 13-14  
**EFFECT OF PARA-CHLOROPHENYLALANINE ON THE BEHAVIOUR OF CASTRATED MALE RATS.** 087360 13-04  
**MEASUREMENT OF PHASIC INTEGRATED POTENTIALS (PIP) DURING TREATMENT WITH PARA-CHLOROPHENYLALANINE (PCPA) (UNPUBLISHED PAPER).** 093258 13-14  
**AGGRESSION AND ASSOCIATED NEURAL EVENTS IN CATS: EFFECTS OF PARA-CHLOROPHENYLALANINE COMPARED WITH ALCOHOL.** 101287 13-03
- PARA-CHLOROPHENYLAMINE**  
**THE EFFECT OF AMITRIPTYLINE ON THE BEHAVIOUR AND EEG OF RATS AFTER DEPLETION OF SEROTONIN BY PARA-CHLOROPHENYLAMINE.** 106093 13-03
- PARA-METHOXYAMPHETAMINE**  
**EFFECT OF PARA-METHOXYAMPHETAMINE ON CATECHOLAMINE METABOLISM IN THE MOUSE BRAIN.** 101543 13-03
- PARADIGM**  
**EFFECTS OF ADRENERGIC BLOCKING AGENTS ON PERCEPTUAL TYPES IN AN AUTONOMIC CONDITIONING PARADIGM (UNPUBLISHED PAPER).** 085292 13-17
- PARADOXICAL**  
**PSYCHOPHARMACOTHERAPY IN PEDOPSYCHIATRY: PARADOXICAL RESPONSES AND ENCOUNTERED DIFFICULTIES.** 095743 13-15  
**RED NUCLEUS FAST ACTIVITY AND SIGNS OF PARADOXICAL SLEEP APPEARING DURING THE EXTINCTION OF EXPERIMENTAL SEIZURES.** 098151 13-03  
**PARADOXICAL EFFECTS OF LOW DOSES OF D-AMPHETAMINE IN RATS.** 112315 13-04
- PARALDEHYDE**  
**EFFECTS OF CHLORAL HYDRATE, PARALDEHYDE, AND ETHANOL ON THE METABOLISM OF (14C) SEROTONIN IN THE RAT.** 077868 13-03
- PARALLEL**  
**A SIMPLE RAPID METHOD FOR PREPARING PARALLEL MICROPIPETTE ELECTRODES.** 112202 13-16
- PARALYSIS**  
**PUPILLARY PARALYSIS AFTER TRANQUILLIZER.** 100134 13-15
- PARAMETERS**  
**THE INFLUENCE OF BARBITURATE ANESTHESIA UPON THE ENERGY STATE AND UPON ACID BASE PARAMETERS OF THE BRAIN IN ARTERIAL HYPOTENSION AND IN ASPHYXIA.** 095999 13-03  
**EFFECT OF TRIPHASINE ON CONDITIONED REFLEX PROCESSES ACCORDING TO PARAMETERS OF EVOKED POTENTIALS.** 113749 13-04
- PARANOID**  
**PHENOTHIAZINE EFFECTS ON AUDITORY SIGNAL DEFLECTION IN PARANOID AND NONPARANOID SCHIZOPHRENICS.** 106918 13-08  
**THE SIGNIFICANCE OF WORK THERAPY IN PARANOID SCHIZOPHRENIA.** 111979 13-08
- PARAOXON**  
**TWO-WAY (SHUTTLE-BOX) AVOIDANCE IN RATS AFTER PARAOXON TREATMENT.** 110493 13-04
- PARENTERAL**  
**PARTICLE SIZE INFLUENCES IN PARENTERAL THERAPY: PHENOBARBITAL STUDY.** 088290 13-03
- PARGYLINE**  
**MATING BEHAVIOR IN THE MALE RAT TREATED WITH P-CHLOROPHENYLALANINE METHYL ESTER ALONE AND IN COMBINATION WITH PARGYLINE.** 104431 13-04  
**ELEVATION OF BRAIN GABA BY PARGYLINE: A POSSIBLE MECHANISM FOR PROTECTION AGAINST OXYGEN TOXICITY.** 106920 13-03

- THE INFLUENCE OF PARGYLINE ON THE EFFECTS OF IN VITRO DOPAMINE INFUSIONS IN THE CAT SPLEEN. 107193 13-03
- ROLE OF BRAIN MONOAMINES IN THE FATAL HYPERTHERMIA INDUCED BY PETHIDINE OR IMIPRAMINE IN RABBITS PRETREATED WITH PARGYLINE. 109197 13-03
- EFFECT OF THE MONOAMINE OXIDASE INHIBITOR PARGYLINE ON THE UPTAKE OF LABELLED NORADRENALINE BY THE CATS SPLEEN. 120413 13-03
- PARKINSON**  
ON THE THERAPY AND PROBLEMATIC NATURE OF PARKINSON SYNDROME. 105491 13-15
- INCREASE IN FINE MOTOR CONTROL IN PARKINSON PATIENTS FOLLOWING LEVODOPA. 108473 13-11
- PARKINSONIAN**  
THE THERAPEUTIC POSSIBILITIES OF L-DOPA AND AMANTADINE IN PARKINSONIAN PATIENTS WHO HAVE UNDERGONE BILATERAL THALAMOTOMY. 111608 13-14
- PARKINSONISM**  
EMOTIONAL DISTURBANCE ACCOMPANYING THE TREATMENT OF PARKINSONISM WITH L-DOPA. 069514 13-14
- L-DOPA IN PARKINSONISM: A POSSIBLE MECHANISM OF ACTION (UNPUBLISHED PAPER). 085956 13-13
- THE ANTIPARKINSON PROPERTIES OF AMANTADINE IN DRUG-INDUCED PARKINSONISM. 087031 13-13
- SEXUAL BEHAVIOR DURING L-DOPA TREATMENT FOR PARKINSONISM. 091448 13-10
- L-DOPA IN PARKINSONISM (UNPUBLISHED PAPER). 092998 13-13
- INHIBITION OF L-PHENYLALANINE ABSORPTION BY L-DOPA IN PATIENTS WITH PARKINSONISM. 099851 13-13
- TROXONIUM TASYLATE IN DRUG-INDUCED PARKINSONISM: A CONTROLLED COMPARATIVE STUDY. 100260 13-07
- THERAPEUTIC GUIDELINES AND SIDE-EFFECTS ENCOUNTERED DURING L-DOPA THERAPY IN 100 CASES OF PARKINSONISM. 106483 13-15
- LEVODOPA IN PARKINSONISM. 110844 13-17
- LEVODOPA: A REVIEW OF ITS PHARMACOLOGICAL PROPERTIES AND THERAPEUTIC USES WITH PARTICULAR REFERENCES TO PARKINSONISM. 110845 13-11
- PSYCHIATRIC ASPECTS IN PARKINSONISM TREATED WITH L-DOPA. 111004 13-17
- PARKINSONISM - PHYSIOLOGY AND PHARMACOLOGY. 111598 13-13
- PARKINSONS**  
ADVERSE REACTIONS DURING TREATMENT OF PARKINSONS DISEASE WITH LEVODOPA. 095426 13-15
- CONTROLLED TRIAL OF AMANTADINE HYDROCHLORIDE IN PARKINSONS DISEASE. 095622 13-11
- GLUCOSE, INSULIN, AND FREE FATTY ACID METABOLISM IN PARKINSONS DISEASE TREATED WITH LEVODOPA. 096471 13-13
- PARKINSONS DISEASE: A NEW APPROACH TO TREATMENT. 110002 13-11
- MENTAL COMPLICATIONS OF L-DOPA THERAPY IN PARKINSONS PATIENTS. 110477 13-15
- CLINICAL OBSERVATIONS ON THE COMPOSITE TREATMENT OF PARKINSONS SYNDROME WITH L-DOPA AND THE DECARBOXYLASE INHIBITOR RO-4-4602. 125996 13-11
- PAROXYSMAL**  
THE INFLUENCE OF BARBITURATES ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCI. 104375 13-03
- INFLUENCE OF CHLORDIAZEPOXIDE ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCI. 104376 13-03
- PARTIAL**  
AMYAL AND THE SMALL TRIAL PARTIAL REINFORCEMENT EFFECT: STIMULUS PROPERTIES OF EARLY TRIAL NONREWARDS. 078938 13-04
- A BARBITURATE LIKE EFFECT OF ADRENOCORTICOTROPIC HORMONE ON THE PARTIAL REINFORCEMENT ACQUISITION AND EXTINCTION EFFECTS. 082858 13-04
- SODIUM AMYLOBARBITONE, THE PARTIAL REINFORCEMENT EXTINCTION EFFECT, AND THE FRUSTRATION EFFECT IN THE DOUBLE RUNWAY. 082859 13-04
- AMOBARBITAL AND THE PARTIAL REINFORCEMENT EFFECT IN RATS: ISOLATING FRUSTRATIVE CONTROL OVER INSTRUMENTAL RESPONDING. 097414 13-14
- PARTIAL ANTAGONISM BY EXOGENOUS CALCIUM OF THE DEPRESSANT EFFECT OF RESERPINE IN RAT SHUTTLE-BOX BEHAVIOR. 117580 13-03
- PARTICIPATION**  
PARTICIPATION OF LIVER FUNCTION IN THE ACUTE TOLERANCE TO PENTOBARBITAL INDUCED AFTER SHORT-TERM INFUSION. 125326 13-03
- PARTICLE**  
PARTICLE SIZE INFLUENCES IN PARENTERAL THERAPY: PHENOBARBITAL STUDY. 088290 13-03
- PARTICLES**  
EFFECTS OF IMIPRAMINE ON THE NA-ION DEPENDENT EXCHANGE AND RETENTION OF GAMMA-AMINOBUTYRIC ACID BY MOUSE BRAIN SUBCELLULAR PARTICLES. 077725 13-03
- PARTNERS**  
BEHAVIOUR OF UNTREATED MICE TO ALCOHOL OR CHLORDIAZEPOXIDE TREATED PARTNERS. 105996 13-04
- PASSIVE**  
EFFECTS OF HALOTHANE ANESTHESIA ON THE RETENTION OF A PASSIVE AVOIDANCE TASK IN RATS. 078448 13-04
- UNSUCCESSFUL ATTEMPTS TO TRANSFER MORPHINE TOLERANCE AND PASSIVE AVOIDANCE BY BRAIN EXTRACTS. 100938 13-04
- RAPID LEARNING OF PASSIVE AVOIDANCE BY WEANLING RATS: CONDITIONED TASTE AVERSION. 101354 13-04
- EFFECTS OF METHAMPHETAMINE AND SHOCK DURATION DURING INESCAPABLE SHOCK EXPOSURE ON SUBSEQUENT ACTIVE AND PASSIVE AVOIDANCE. 102549 13-04
- EFFECT OF 5-IODOURACIL AND 2,6 DIAMINOPURINE ON PASSIVE AVOIDANCE TASK. 104810 13-04
- THE CYCLOHEXIMIDE INDUCED AMNESIA GRADIENT OF A PASSIVE AVOIDANCE TASK. 105075 13-04
- EVIDENCE FOR STATE DEPENDENT LEARNING WITH MESCALINE IN A PASSIVE AVOIDANCE TASK. 105079 13-04
- THE BEHAVIORAL EFFECTS OF A NEW PSYCHOACTIVE DRUG (D-CARBINE) ON A PASSIVE AVOIDANCE RESPONSE AND LOCOMOTION AND ITS INTERACTION WITH AMPHETAMINE. 124104 13-02
- PATHOLOGICAL**  
INFLUENCE OF AMPHETAMINE ON THE PATHOLOGICAL STATE OF THE RAT BRAIN. 125422 13-05
- PATHOPHYSIOLOGICAL**  
SOME PATHOPHYSIOLOGICAL FEATURES OF THE EFFECT OF AMINAZINE IN THE STUPOROUS SYNDROME. 102668 13-13
- PATHWAY**  
EVOKED POTENTIAL AND SINGLE UNIT STUDIES OF NEURAL MECHANISMS UNDERLYING THE EFFECTS OF REPETITIVE STIMULATION IN THE AUDITORY PATHWAY. 108671 13-03
- PATIENT**  
A PROPOSAL FOR A CONSISTENT NIGHT THERAPY FOR THE MENTAL PATIENT: CONJOINTLY, A CAUSISTIC CONTRIBUTION TO A DAY NIGHT THERAPY FOR DEPRESSIONS WITH PSYCHOTROPIC DRUGS. 089067 13-09
- THE UNCONSCIOUS PATIENT FROM THE NEUROLOGICAL VIEWPOINT. 089212 13-15
- MEDICATION, ANXIETY REDUCTION AND PATIENT REPORT OF SIGNIFICANT LIFE SITUATION EVENTS. 092456 13-10
- TREATMENT OF ALCOHOLIC WITHDRAWAL IN THE CHRONIC ALCOHOLIC PATIENT. 100412 13-14
- A TECHNIQUE IN THE EVALUATION OF PSYCHOTROPIC MEDICATION BASED ON A PATIENT DEMAND SCHEDULE: COMPARISON OF THE EFFICACY OF OXYPERTINE, DIAZEPAM AND PLACEBO IN ANXIETY. 100538 13-10
- PATIENT REJECTION OF LITHIUM CARBONATE PROPHYLAXIS. 102105 13-09

# Subject Index

## PATIENTS

TREATMENT OF ANXIOUS DEPRESSIVE PATIENTS IN GENERAL MEDICAL PRACTICE.

074318 13-07

DOXEPIIN IN THE TREATMENT OF PSYCHONEUROTIC PATIENTS: A COMPARISON BETWEEN TWO CLINICAL SETTINGS.

077431 13-14

SENILEX IN THE TREATMENT OF GERIATRIC PATIENTS.

077824 13-11

OXYPERTINE AND THIOTHIXENE IN NEWLY ADMITTED SCHIZOPHRENIC PATIENTS.

077932 13-08

COMBINED ADMINISTRATION OF THIORIDAZINE AND NICOTINIC ACID IN THE TREATMENT OF GERIATRIC PATIENTS.

078942 13-11

CHLORPROTHIXENE ENFORCED SLEEP FOR NEWLY ADMITTED PATIENTS WITH ACUTE MENTAL DECOMPENSATION.

078951 13-14

TOXICITY OF LITHIUM CARBONATE IN ELDERLY PATIENTS.

079779 13-13

PSYCHIATRIC TREATMENT FOR GERIATRIC PATIENTS: PUB OR DRUG?

079780 13-14

THE EFFECTS OF PHENOTHIAZINE MEDICATION ON SKIN CONDUCTANCE AND HEART RATE IN SCHIZOPHRENIC PATIENTS.

085015 13-08

MANIC PATIENTS IMPROVEMENT WITH METHYSERGIDE.

085406 13-07

URINARY EXCRETION OF CHLORPROMAZINE AND CHLORPROMAZINE SULFOXIDE IN FOUR PATIENTS ON DIFFERENT DAYS.

086576 13-13

COMBINATION MEDICATIONS IN PSYCHIATRIC TREATMENT: PATTERNS IN A GROUP OF ELDERLY HOSPITAL PATIENTS.

086704 13-14

BEHAVIOR PROBLEMS IN NURSING HOME PATIENTS: TREATMENT WITH THIORIDAZINE.

086894 13-14

A CLINICAL STUDY WITH PROPERICIAZINE IN CHRONIC PSYCHOTIC PATIENTS.

086895 13-11

COMPARISON OF MOLIDONE AND PLACEBO IN ANXIOUS DEPRESSED PATIENTS.

086897 13-10

THE EFFECT OF PAPAVERINE ON PATIENTS WITH CEREBRAL ARTERIOSCLEROSIS.

086936 13-14

RENAL LITHIUM ELIMINATION IN MANIC-DEPRESSIVE PATIENTS - INITIAL EXCRETION AND CLEARANCE.

087000 13-13

DOUBLE-BLIND STUDY ON THE CORRELATIONS OF URINARY ELIMINATION OF CATECHOLAMINES AND THEIR METABOLITES (SUPPOSED TO COME THROUGH ADRENOCROME, NORADRENOCROME AND DOPACHROME) WITH CLINICAL STATE OF 50 PATIENTS UNDER DIFFERENT PSYCHOPHARMACOLOGIC DRUG.

087003 13-13

IATROGENIC PSYCHOTIC DEPRESSIVE REACTION IN HYPERTENSIVE PATIENTS.

088147 13-15

CLINICAL AND ELECTROENCEPHALOGRAPHIC EFFECTS OF CINANSERIN IN SCHIZOPHRENIC AND MANIC PATIENTS.

088153 13-07

ANABOLIC ACTION AND SIDE-EFFECTS OF OXANDROLONE IN 34 MENTAL PATIENTS.

088629 13-15

DRUG TREATMENT OF HOSPITALIZED PSYCHIATRIC PATIENTS.

089849 13-11

CHROMOSOME EXAMINATIONS IN PATIENTS ON LITHIUM CARBONATE.

090765 13-15

CHLORPROMAZINE AND SLEEP IN PSYCHIATRIC PATIENTS.

090929 13-14

EXPERIMENTAL WITHDRAWAL OF LITHIUM IN RECOVERED MANIC-DEPRESSIVE PATIENTS: A REPORT OF FIVE CASES.

092514 13-09

CHANGES IN REM SLEEP OF CHRONIC ANXIOUS DEPRESSED PATIENTS GIVEN ALPHA-METHYL-P-TYROSINE (UNPUBLISHED PAPER).

093260 13-10

DIFFERENTIAL RESPONSE TO LITHIUM IN BIPOLAR VS UNIPOLAR DEPRESSED PATIENTS (UNPUBLISHED PAPER).

093454 13-09

PROBLEMS OF A DRUG TRIAL (PEMOLINE) ON GERIATRIC PATIENTS.

093774 13-11

DEPRESSION AND CEREBRAL DOMINANCE: A STUDY OF BILATERAL INTRACAROTID AMYTAL IN ELEVEN DEPRESSED PATIENTS.

093815 13-09

METHODOLOGICAL ISSUES IN EVALUATING THE EFFECTIVENESS OF AGENTS FOR TREATING ANXIOUS PATIENTS.

095539 13-10

REACTION TIME IN PSYCHIATRIC PATIENTS: PILOT STUDY.

095621 13-15

# Psychopharmacology Abstracts

PROLDON EMANTHATE AND THORAZINE STELAZINE REGIMENS IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS. AN EXPERIMENTAL EVALUATION.

096017 13-08

HALOPERIDOL VERSUS THIORIDAZINE FOR HOSPITALIZED PSYCHOGIATRIC PATIENTS: DOUBLE-BLIND STUDY.

096021 13-11

A SYSTEMATIC CLINICAL STUDY WITH NICOTINIC ACID, THIORIDAZINE, FLUOXYMESTERONE AND THEIR COMBINATIONS IN HOSPITALIZED GERIATRIC PATIENTS: THERAPEUTIC RESULTS AND CHANGES IN PSYCHOMETRIC TEST PERFORMANCE.

098507 13-11

COMBINED ADMINISTRATION OF THIORIDAZINE, NICOTINIC ACID, AND FLUOXYMESTERONE IN THE TREATMENT OF GERIATRIC PATIENTS.

098601 13-13

COMBINED INTRAMUSCULAR ADMINISTRATION OF DEPO? FLUPHENAZINE AND BENZOTROPINE MESYLATE IN CHRONIC SCHIZOPHRENIC PATIENTS.

098602 13-08

PENTYLENETETRAZOL IN THE TREATMENT OF GERIATRIC PATIENTS WITH DISTURBED MEMORY FUNCTION.

098611 13-11

PIMOZIDE IN CHRONIC SCHIZOPHRENIC PATIENTS.

098613 13-08

ACTION OF A BENZODIAZEPINE DERIVATIVE, RO-5-4200, ON THE EEG AND SLEEP CYCLE IN PATIENTS WITH INSOMNIA.

098662 13-07

EFFECT OF L-DOPA TREATMENT ON BRAIN SEROTONIN METABOLISM IN DEPRESSED PATIENTS.

098686 13-13

TRIFLUOPERIDOL IN CHRONIC MALE PSYCHIATRIC PATIENTS.

098731 13-14

EVALUATION OF TRANQUILLISERS WITH SUBNORMAL PATIENTS.

098736 13-14

CLINICAL INVESTIGATION OF DOXEPIIN IN DEPRESSED PATIENTS. PILOT OPEN STUDY, CONTROLLED DOUBLE-BLIND TRIAL VERSUS IMIPRAMINE, AND ALL-NIGHT POLYGRAPHIC STUDY.

099031 13-10

HALOPERIDOL AS A TREATMENT OF ANXIETY IN PSYCHONEUROTIC PATIENTS.

099155 13-10

A CLINICAL TRIAL OF SCH-12041 WITH CHRONIC ALCOHOLIC PATIENTS.

099156 13-07

EVALUATION OF TRANQUILLISERS WITH SUBNORMAL PATIENTS: 2. PERICAZINE AND CHLORPROMAZINE.

099440 13-09

EVALUATION OF TRANQUILLISERS WITH SUBNORMAL PATIENTS. 3. BEHAVIOURAL CHANGES.

099747 13-14

INHIBITION OF L-PHENYLALANINE ABSORPTION BY L-DOPA IN PATIENTS WITH PARKINSONISM.

099851 13-13

RESPIRATORY DEPRESSION CAUSED BY NITRAZEPAM IN PATIENTS WITH RESPIRATORY FAILURE.

100495 13-15

COMPARATIVE EVALUATION OF DIAZEPAM (VALIUM) AND PHENOBARBITAL: FOR THE RELIEF OF ANXIETY RELATED SYMPTOMS IN PATIENTS HOSPITALIZED FOR ACUTE MYOCARDIAL INFARCTION.

100826 13-14

CLINICAL HYPOTHYROIDISM OCCURRING DURING LITHIUM TREATMENT: TWO CASE HISTORIES AND A REVIEW OF THYROID FUNCTION IN 19 PATIENTS.

101061 13-15

CLINICAL AND ERGOTHERAPEUTIC EVALUATION OF FLUSPIRILENE (R-6218), A LONG-ACTING INJECTABLE NEUROLEPTIC, IN CHRONIC PSYCHOTIC PATIENTS.

102577 13-07

LONG-TERM ADMINISTRATION OF DOXEPIIN (SINEQUAN): CLINICAL AND LABORATORY SURVEY OF 40 PATIENTS.

102593 13-09

EXPERIENCE WITH COMPLEX THERAPY FOR PATIENTS WITH THE PERIOD FORM OF SCHIZOPHRENIA.

102653 13-08

TREATMENT OF SCHIZOPHRENIC PATIENTS WITH SIDNOCARB.

102654 13-07

ON THE ANALYSIS OF SIDE (NEUROLEPTIC) MANIFESTATIONS IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS WITH MAJEPTIL.

102657 13-08

EXPERIENCE WITH ADMINISTRATION OF NOYLEPTIL FOR THE TREATMENT OF EMOTIONAL DISORDERS AND BEHAVIORAL DISTURBANCES IN EPILEPTIC PATIENTS.

102795 13-11

TREATMENT OF PATIENTS WITH TRAUMATIC EPILEPSY IN THE INITIAL PERIOD OF THE DISEASE.

102827 13-13

ON THE TREATMENT OF PATIENTS WITH NARCOLEPSY.

102828 13-17

- ON THE CLINICAL PICTURE OF COMPLICATIONS IN THE TREATMENT OF EPILEPTIC PATIENTS WITH ANTICONVULSANTS. 102829 13-15
- INFLUENCE OF AMINAZINE ON THE ADAPTATION OF THE CARDIOVASCULAR SYSTEM IN EPILEPTIC PATIENTS. 102830 13-17
- EVALUATION OF CLINICAL EFFICACY OF PIMOZIDE AS MAINTENANCE THERAPY IN CHRONIC SCHIZOPHRENIC PATIENTS. 103326 13-07
- A PILOT STUDY OF PIMOZIDE IN CHRONIC SCHIZOPHRENIC PATIENTS. 103327 13-07
- THE COMBINATION OF PROTRIPTYLINE AND OXAZEPAM IN DEPRESSED NEUROTIC GENERAL PRACTICE PATIENTS. 103626 13-10
- A COMPARATIVE STUDY OF THE THERAPEUTIC EFFECTS OF SOME 4-CHLORINATED AMPHETAMINE DERIVATIVES IN DEPRESSIVE PATIENTS. 103955 13-13
- SOMATOSENSORY EVOKED POTENTIAL CHANGES DURING THIOTHIXENE TREATMENT IN SCHIZOPHRENIC PATIENTS. 105008 13-08
- FLUPHENAZINE ENANTHATE IN THE TREATMENT OF CHRONIC PSYCHOTIC PATIENTS: A CONTROLLED CLINICAL STUDY. 105673 13-08
- INTERRELATIONS OF FOLIC ACID AND VITAMIN-B12 IN DRUG TREATED EPILEPTIC PATIENTS. 106063 13-11
- LEVODOPA NICOTINIC ACID INTERACTION IN PSYCHIATRIC PATIENTS. 107286 13-08
- PSYCHOMOTOR PERFORMANCES OF PATIENTS UNDERGOING L-DOPA THERAPY. 107465 13-13
- INCREASE IN FINE MOTOR CONTROL IN PARKINSON PATIENTS FOLLOWING LEVODOPA. 108473 13-11
- PART 1. IMPROVEMENT CRITERIA IN DRUG TRIALS WITH NEUROTIC PATIENTS. 108484 13-10
- EFFECT OF THIOTHIXENE ON DIGITAL COMPUTER SLEEP PRINTS OF SCHIZOPHRENIC PATIENTS. 108569 13-14
- EFFECTS OF FLUPHENAZINE HYDROCHLORIDE ON DIGITAL COMPUTER SLEEP PRINTS OF SCHIZOPHRENIC PATIENTS. 108701 13-08
- SERUM FOLIC ACID AND PHENYTOIN LEVELS IN PERMANENTLY HOSPITALIZED EPILEPTIC PATIENTS RECEIVING ANTICONVULSANT DRUG THERAPY. 108727 13-15
- USE OF TEGRETOL IN THE TREATMENT OF EPILEPTIC PATIENTS WITH MENTAL DISORDERS. 110120 13-11
- MENTAL COMPLICATIONS OF L-DOPA THERAPY IN PARKINSONS PATIENTS. 110477 13-15
- THE THERAPEUTIC POSSIBILITIES OF L-DOPA AND AMANTADINE IN PARKINSONIAN PATIENTS WHO HAVE UNDERGONE BILATERAL THALAMOTOMY. 111608 13-14
- PSYCHOTROPIC DRUGS OF PROLONGED EFFECT IN REHABILITATION AND READAPTATION OF SCHIZOPHRENIC PATIENTS. 111738 13-08
- USE OF ONE OF THE CHOLINESTERASE REACTIVATORS, DIPYROXIME, FOR TREATMENT OF MENTAL PATIENTS. 113748 13-14
- THE CONTRIBUTION OF FLUPHENAZINE ENANTHATE AND DECANOATE IN THE PREVENTION OF READMISSION OF SCHIZOPHRENIC PATIENTS. 115399 13-08
- METIAPINE: A DOUBLE-BLIND EVALUATION IN CHRONIC SCHIZOPHRENIC PATIENTS. 117022 13-08
- USE OF EXPERIMENTAL METHODS TO DETERMINE SHIFTS IN THE STATE OF SCHIZOPHRENIC PATIENTS DURING TREATMENT. 118010 13-08
- CHOLINESTERASE ACTIVITY IN THE ERYTHROCYTES AND BLOOD PLASMA OF SCHIZOPHRENIC PATIENTS DURING TREATMENT WITH DIMETHYLOAMINOETHANOLIC ESTERS. 118204 13-08
- CLINICAL STUDY OF THE EFFECT OF SUSTAINED RELEASE THIORIDAZINE IN LONG-TERM PSYCHIATRIC HOSPITAL PATIENTS. 121457 13-07
- SOMATOSENSORY EVOKED POTENTIAL CHANGES DURING THIOTHIXENE TREATMENT IN SCHIZOPHRENIC PATIENTS. 125568 13-08
- PATTERN**  
MODIFICATIONS OF THE ALARM PATTERN BY NICOTINE. 086902 13-04
- PATTERNS**  
A SURVEY OF PRESCRIBING PATTERNS IN COMMON PSYCHIATRIC CONDITIONS. 086525 13-17
- COMBINATION MEDICATIONS IN PSYCHIATRIC TREATMENT: PATTERNS IN A GROUP OF ELDERLY HOSPITAL PATIENTS. 086704 13-14
- EFFECTS OF CYCLOHEXIMIDE ON RESTRICTED BEHAVIORAL PATTERNS OF MICE. 091225 13-04
- EFFECTS OF ESTROGEN AND PROGESTERONE ON SLEEP PATTERNS OF FEMALE RATS. 095385 13-04
- DISTURBED PATTERNS OF BEHAVIOUR IN MORPHINE TOLERANT AND ABSTINENT RATS. 096150 13-04
- BEHAVIORAL AND EEG PATTERNS IN THE CAT COINCIDENT WITH SYSTEMATIC AND INTRACRANIAL STIMULATION WITH D-AMPHETAMINE SULFATE DURING A VISUAL DISCRIMINATION TASK. (PH.D. DISSERTATION). 102635 13-03
- COMPARATIVE EFFECTS OF TEN ANORECTIC DRUGS ON SLEEP WAKEFULNESS PATTERNS IN CATS. 104174 13-04
- EFFECTS OF PLACEBO AND FLURAZEPAM ON SLEEP PATTERNS IN INSOMNIAC SUBJECTS. 104367 13-14
- EFFECTS OF METHYLDOPA ON SLEEP PATTERNS IN MAN. 112201 13-14
- EXPLORATION OF CERTAIN BEHAVIORAL PATTERNS INDUCED BY PSYCHOACTIVE AGENTS IN THE RAT. 120964 13-04
- FAVOR-NOCTURNUS**  
TREATMENT OF FAVOR-NOCTURNUS AND SOMNAMBULISM IN CHILDREN. 106954 13-11
- PBMA**  
CROSS-TOLERANCE BETWEEN P-METHOXYPHENYLETHYLAMINE (PMEA), 3,4-DEMETHYOXYPHENYLETHYLAMINE (DMPEA) AND P-BROMOMETHOAMPHETAMINE (PBMA, V111). 123270 13-04
- PCPA**  
MEASUREMENT OF PHASIC INTEGRATED POTENTIALS (PIP) DURING TREATMENT WITH PARA-CHLOROPHENYLALANINE (PCPA) (UNPUBLISHED PAPER). 093258 13-14
- PEDIATRIC**  
PEDIATRIC PRACTICE: WHOSE MOOD ARE WE ALTERING? 087270 13-14
- BEHAVIORAL SCIENCE IN PEDIATRIC MEDICINE. 118690 13-14
- PEDOPSYCHIATRY**  
PSYCHOPHARMACOTHERAPY IN PEDOPSYCHIATRY: PARADOXICAL RESPONSES AND ENCOUNTERED DIFFICULTIES. 095743 13-15
- PELLUCIDUM**  
CHARACTEROPATHIC CHANGES AND EXPRESSIVE APHASIA IN A CHILD WITH CONGENITAL AGENESIS OF THE SEPTUM PELLUCIDUM. 122951 13-11
- PEMOLINE**  
THE EFFECTS OF MAGNESIUM PEMOLINE ON SIDMAN AVOIDANCE BEHAVIOR. 078452 13-04
- EFFECTS OF MAGNESIUM PEMOLINE IN DIMETHYLSULFOXIDE ON REVERSAL LEARNING, MOTOR ACTIVITY, AND WATER INTAKE. 079611 13-04
- SPONTANEOUS ACTIVITY AND WATER INTAKE IN THE RAT UNDER THE EFFECTS OF SCOPOLAMINE HBR AND MAGNESIUM PEMOLINE. 086186 13-04
- PROBLEMS OF A DRUG TRIAL (PEMOLINE) ON GERIATRIC PATIENTS. 093774 13-11
- PEMOLINE: REVIEW OF PERFORMANCE. 111420 13-04
- SEPARATION OF THE EFFECTS OF MAGNESIUM PEMOLINE ON AVOIDANCE LEARNING AND MEMORY FROM ITS CENTRAL NERVOUS SYSTEM STIMULANT PROPERTIES BY CHLORDIAZEPoxide. 125410 13-04
- PENFLURIDOL**  
CONTROLLED TRIAL OF PENFLURIDOL IN ACUTE PSYCHOSIS. 111694 13-09
- PENICILLAMINE**  
OUR EXPERIENCE WITH TREATMENT OF HEPATOLENTICULAR DEGENERATION WITH PENICILLAMINE. 101418 13-11
- PENICILLIN**  
DEFICIT IN ACTIVE AVOIDANCE LEARNING IN RATS FOLLOWING PENICILLIN INJECTION INTO HIPPOCAMPUS. 095382 13-04

# Subject Index

# Psychopharmacology Abstracts

- PENTAZOCINE**  
NIKETHAMIDE AND DOXAPRAM EFFECTS ON PENTAZOCINE AND MORPHINE INDUCED RESPIRATORY DEPRESSION. 105407 13-03
- PENTETAZOL**  
INHIBITION OF PENTETAZOL INDUCED HYPERSYNCHRONOUS ACTIVITY IN THE THALAMOCORTICAL SYSTEM BY ETHOSUXIMIDE. 098297 13-04  
ON THE FUNCTIONAL RELATIONSHIP BETWEEN PHYSIOLOGICAL AND PENTETAZOL INDUCED RHYTHMIC ACTIVITY IN THE EEG OF UNRESTRAINED RATS. 113567 13-03
- PENTOBARBITAL**  
SELF-STARVATION AND REWARDING BRAIN STIMULATION: EFFECTS OF CHLORPROMAZINE AND PENTOBARBITAL. 075046 13-04  
EFFECTS OF TWO TETRAHYDROCANNABINOLS AND OF PENTOBARBITAL ON CORTICO-CORTICAL EVOKED RESPONSES IN THE SQUIRREL MONKEY. 082720 13-03  
COMPARISON BETWEEN ACUTE AND CHRONIC ADMINISTRATION OF ETHYL-ALCOHOL ON THE DEVELOPMENT OF TOLERANCE TO PENTOBARBITAL. 088732 13-03  
THE EFFECTS OF MORPHINE, PENTOBARBITAL AND CHLORPROMAZINE ON BIOELECTRICAL POTENTIALS EVOKED IN THE BRAIN STEM OF THE CAT BY ELECTRICAL STIMULATION OF THE GINGIVA AND TOOTH PULP. 094254 13-05  
METHODOLOGIC CONSIDERATIONS OF THE EVALUATION OF HYPNOTICS IN MAN: A BIOLOGIC ASSAY OF PENTOBARBITAL AND SECOBARBITAL. 100261 13-16  
INCREASE OF ETHANOL, MEPROBAMATE AND PENTOBARBITAL METABOLISM AFTER CHRONIC ETHANOL ADMINISTRATION IN MAN AND IN RATS. 100792 13-13  
MODIFICATION OF CONFLICT BEHAVIOR BY PRIOR EXPERIENCE: EFFECTS OF SCHEDULING AND PENTOBARBITAL. 103652 13-04  
PHYSOSTIGMINE AND PENTOBARBITAL: BIPHASIC INTERACTION IN MICE. 104329 13-03  
A COMPARISON OF STATE DEPENDENT LEARNING INDUCED BY ELECTROCONVULSIVE SHOCK AND PENTOBARBITAL. 105362 13-04  
ANIMAL DISSOCIATED LEARNING AS AFFECTED BY PENTOBARBITAL ADMINISTRATION. 109736 13-04  
DETERMINATION OF THERAPEUTIC BLOOD LEVELS OF METHAMPHETAMINE AND PENTOBARBITAL BY GC. 111999 13-16  
PARTICIPATION OF LIVER FUNCTION IN THE ACUTE TOLERANCE TO PENTOBARBITAL INDUCED AFTER SHORT-TERM INFUSION. 125326 13-03
- PENTOBARBITONE**  
THE EFFECT OF ETHANOL ON PHENOBARBITONE AND PENTOBARBITONE ABSORPTION INTO RAT BLOOD AND BRAIN. 122551 13-03
- PENTYLENETETRAZOL**  
THE METABOLIC FATE OF PENTYLENETETRAZOL IN THE RAT. 082765 13-03  
PENTYLENETETRAZOL IN THE TREATMENT OF GERIATRIC PATIENTS WITH DISTURBED MEMORY FUNCTION. 098611 13-11  
EFFECT OF PENTYLENETETRAZOL ON THE LEECH RETZIUS CELL. 099108 13-03  
TIME DEPENDENT MEMORY DEFICITS PRODUCED BY PENTYLENETETRAZOL (METRAZOL) - THE EFFECT OF REINFORCEMENT MAGNITUDE. 102305 13-04
- PENTYLENETETRAZOL-10-14C**  
BIOLOGICAL DISPOSITION OF PENTYLENETETRAZOL-10-14C IN RATS AND HUMANS. 087061 13-03
- PERAZINE**  
METABOLISM OF THE PHENOTHIAZINE DRUG PERAZINE BY LIVER AND LUNG MICROSOMES FROM VARIOUS SPECIES. 108718 13-03  
ACCUMULATION OF METABOLITES DURING CHRONIC APPLICATION OF THE NEUROLEPTIC DRUG PERAZINE TO RATS. 123268 13-03
- PERCEPTION**  
DRUG ADVERTISING AND PERCEPTION OF MENTAL ILLNESS. 085597 13-17  
THE EFFECT OF PHYSOSTIGMINE ON THE PERCEPTION AND CONSOLIDATION PHASE OF MEMORY AND LEARNING IN ALCOHOLICS. 105917 13-14  
PERCEPTION AND TOLERANCE OF PAIN AS A MEASURE OF ANTIPSYCHOTIC TREATMENT. 121259 13-08
- PERCEPTUAL**  
DOM (STP), A NEW HALLUCINOGENIC DRUG: SPECIFIC PERCEPTUAL CHANGES. 078958 13-12  
EFFECTS OF ADRENERGIC BLOCKING AGENTS ON PERCEPTUAL TYPES IN AN AUTONOMIC CONDITIONING PARADIGM (UNPUBLISHED PAPER). 085292 13-17  
EFFECTS OF DIAZEPAM AND MECLIZINE HYDROCHLORIDE ON EMOTIONAL UPSET DUE TO PERCEPTUAL DISSONANCE AND MOTION. 101578 13-04
- PERCHLORATE**  
USE OF CERIC SULFATE AND CUPRIC PERCHLORATE FOR TITRIMETRIC ANALYSES OF PHENOTHIAZINE DERIVATIVES. 082763 13-06
- PERCUTANEOUS**  
PERCUTANEOUS DEXAMETHASONE AND FUNCTIONAL REHABILITATION IN NEUROLOGICAL DISORDERS. 122393 13-11
- PERFORMANCE**  
LOW LEVEL CARBON MONOXIDE EXPOSURE AND HUMAN PSYCHOMOTOR PERFORMANCE. 078163 13-14  
EFFECTS OF STRAIN DIFFERENCES AND D-AMPHETAMINE SULFATE ON AVOIDANCE PERFORMANCE. 078250 13-02  
CHLORDIAZEPOXIDE AND AVERSIVE CONDITIONING: EFFECTS OF ACQUISITION AND PERFORMANCE OF THE CONDITIONED NICTITATING MEMBRANE RESPONSE IN THE RABBIT. 078527 13-04  
AN EXAMINATION OF THE EFFECT OF CENTRAL NERVOUS SYSTEM STIMULANT AND ANTIDEPRESSANT DRUGS ON OPEN-FIELD PERFORMANCE IN RATS. 078937 13-04  
THE INFLUENCE OF ALCOHOL AND MARIJUANA ON MOTOR AND MENTAL PERFORMANCE. 079431 13-14  
FACILITATION AND IMPAIRMENT OF AVOIDANCE RESPONDING BY PHENOBARBITAL SODIUM, CHLORDIAZEPOXIDE AND DIAZEPAM - THE ROLE OF PERFORMANCE BASE LINES. 082881 13-04  
A METHOD TO MEASURE INTERACTIONS OF VARIOUS AGENTS AND ETHANOL ON BEHAVIORAL PERFORMANCE IN RATS. MEDICINE. 088624 13-06  
THE EFFECTS OF CHLORPROMAZINE AND D-AMPHETAMINE ON THE ACQUISITION AND PERFORMANCE OF A CONDITIONED ESCAPE RESPONSE IN RATS. 091532 13-03  
EFFECT OF TEMPORARY SEPTAL DYSFUNCTION ON CONDITIONING AND PERFORMANCE OF FEAR RESPONSES IN RATS. 097448 13-03  
THE EFFECT OF PROSTAGLANDIN E2 ON CONDITIONED AVOIDANCE RESPONSE PERFORMANCE IN RATS. 098159 13-04  
A SYSTEMATIC CLINICAL STUDY WITH NICOTINIC ACID, THIORIDAZINE, FLUOXYMESTERONE AND THEIR COMBINATIONS IN HOSPITALIZED GERIATRIC PATIENTS: THERAPEUTIC RESULTS AND CHANGES IN PSYCHOMETRIC TEST PERFORMANCE. 098507 13-11  
VISUAL MOTOR PERFORMANCE DURING LITHIUM TREATMENT: A PRELIMINARY REPORT. 098612 13-14  
A SURVEY OF SELECTED DRUGS ON BEHAVIOR PERFORMANCE IN ETHANOL TREATED RATS. 099649 13-04  
THE INFLUENCE OF TRAINING AND AVOIDANCE PERFORMANCE ON DISULFIRAM INDUCED CHANGES IN BRAIN CATECHOLAMINES. 100216 13-03  
THE BEHAVIOURAL EFFECTS OF LEVALLORPHAN, CYPRENORPHINE (M-285) AND AMPHETAMINE ON REPEATED Y-MAZE PERFORMANCE IN RATS. 102190 13-04  
EFFECTS OF SCOPOLAMINE ON HIPPOCAMPAL THETA AND CORRELATED DISCRIMINATION PERFORMANCE. 102390 13-04  
ETHYL-ALCOHOL: BLOOD LEVELS AND PERFORMANCE DECREMENTS AFTER ORAL ADMINISTRATION TO MAN. 104378 13-14  
THE EFFECTS OF CHLORPROMAZINE ON FINE PSYCHOMOTOR PERFORMANCE WITH A SIMULTANEOUS SECONDARY TASK IN SCHIZOPHRENICS. 105926 13-08  
THE EFFECTS OF HYDROXYZINE ON WATER MAZE PERFORMANCE. (PH.D. DISSERTATION). 109636 13-04  
PEMOLINE: REVIEW OF PERFORMANCE. 111420 13-04  
PHYSICAL PERFORMANCE OF MICE TREATED WITH PROPRANOLOL, SOTALOL AND INPEA. 120818 13-04

- EFFECTS OF CHLORDIAZEPOXIDE ON DEPRESSED PERFORMANCE AFTER REWARD REDUCTION. 125164 13-04
- PERFORMANCES**  
EFFECTS OF INFUSED TESTOSTERONE ON MENTAL PERFORMANCES AND SERUM LH. 088596 13-14  
PSYCHOMOTOR PERFORMANCES OF PATIENTS UNDERGOING L-DOPA THERAPY. 107465 13-13
- PERFUSED**  
EFFECT OF LITHIUM ON THE RELEASE OF 14C-NOREPINEPHRINE BY NERVE STIMULATION FROM THE PERFUSED CAT SPLEEN. 077989 13-03  
UPTAKE, METABOLISM AND EXCRETION OF DESMETHYLIMIPRAMINE AND ITS METABOLITES IN THE ISOLATED PERFUSED RAT LIVER. 098616 13-03  
EFFECTS OF CHLORPROMAZINE AND PROPRANOLOL ON LEFT VENTRICULAR SYSTOLIC PRESSURE, ECG, AND POTASSIUM ION EFFLUX IN THE ISOLATED PERFUSED RAT HEART. 103311 13-03  
EFFECT OF CHLORPROMAZINE ON THE FUNCTION OF THE PERFUSED ISOLATED LIVER. 118569 13-05
- PERFUSION**  
TETRAHYDROISOQUINOLINE ALKALOIDS IN THE ADRENAL MEDULLA AFTER PERFUSION WITH BLOOD CONCENTRATIONS OF (14C)ACETALDEHYDE. 108281 13-03
- PERIACHTIN**  
APPETITE STIMULATING AND WEIGHT GAIN PROPERTIES OF CYPROHEPTADINE (PERIACHTIN) IN GERIATRIC SUBJECTS. 074314 13-11
- PERICAZINE**  
EVALUATION OF TRANQUILLISERS WITH SUBNORMAL PATIENTS: 2. PERICAZINE AND CHLORPROMAZINE. 099440 13-09
- PERINATAL**  
INFLUENCE OF PERINATAL DRUGS ON THE BEHAVIOR OF THE NEONATE. 099518 13-15
- PERIODATE**  
A SOURCE OF ERROR IN THE ESTIMATION OF VANILLYLMADELIC ACID IN RAT URINE USING PERIODATE OXIDATION (UNPUBLISHED PAPER). 092893 13-06
- PERIODIC**  
PROPHYLACTIC EFFECTS OF LITHIUM SALTS IN PERIODIC AFFECTIVE PSYCHOSES. 101967 13-09  
PROPHYLACTIC EFFECT OF LITHIUM SALTS IN PERIODIC AFFECTIVE PSYCHOSIS. 102602 13-09
- PERIODS**  
EFFECTS OF STRYCHNINE DURING DIFFERENT PERIODS OF DEVELOPMENT ON MAZE LEARNING IN ADULT RATS. 120961 13-03
- PERIPHERAL**  
PERIPHERAL NEUROPATHY CAUSED BY ANTABUSE. 075092 13-13  
SPECIFICITY OF ACTION OF 6-HYDROXYDOPAMINE IN PERIPHERAL CAT TISSUES: DEPLETION OF NORADRENALINE WITHOUT DEPLETION OF 5-HYDROXYTRYPTAMINE. 088486 13-03  
PERIPHERAL NEUROPATHY AND DISULFIRAM. 100056 13-15  
PERIPHERAL EFFECTS OF ANTICHOLINERGIC PSYCHOTOMIMETICS. 105991 13-03  
MIANSERIN HYDROCHLORIDE: PERIPHERAL AND CENTRAL EFFECTS IN RELATION TO ANTAGONISM AGAINST 5-HYDROXYTRYPTAMINE AND TRYPTAMINE. 107160 13-03  
THE PHARMACOLOGY OF PERIPHERAL AUDITORY PROCESSES; COCHLEAR PHARMACOLOGY. 108523 13-13  
DIFFERENCES IN TOLERANCE TO Mescaline PRODUCED BY PERIPHERAL AND DIRECT CENTRAL ADMINISTRATION. 125255 13-03
- PERIPHERALLY**  
THE EFFECTS OF PERIPHERALLY ADMINISTERED 6-HYDROXYDOPAMINE ON RAT BRAIN MONOAMINE TURNOVER. 086810 13-03  
RELEARNING AT DIFFERENT TIMES AFTER TRAINING AS AFFECTED BY CENTRALLY AND PERIPHERALLY ACTING CHOLINERGIC DRUGS IN THE MOUSE. 097739 13-04
- PERITONEAL**  
PRELIMINARY REPORT ON THE INCORPORATION OF GUANETHIDINE AND RESERPINE INTO RAT PERITONEAL MAST CELLS IN VITRO. 111073 13-03
- PERMANENT**  
EFFECTS OF APOMORPHINE AND AMPHETAMINE IN RATS WITH A PERMANENT CATALEPSY INDUCED BY DIENCEPHALIC LESION. PHARMACOLOGY. 105118 13-03
- PERMANENTLY**  
SERUM FOLIC ACID AND PHENYTOIN LEVELS IN PERMANENTLY HOSPITALIZED EPILEPTIC PATIENTS RECEIVING ANTICONVULSANT DRUG THERAPY. 106727 13-15
- PERPHENAZINE**  
A DOUBLE-BLIND CONTROLLED TRIAL OF THIOTHIXENE AND PERPHENAZINE IN CHRONIC SCHIZOPHRENICS SHOWN TO REQUIRE MAINTENANCE THERAPY. 100807 13-08  
URINARY EXCRETION OF PERPHENAZINE AND ITS SULFOXIDE DURING ADMINISTRATION IN ORAL AND LONG-ACTING INJECTABLE FORM. 102185 13-15  
COMPARISON OF THE THERAPEUTIC RESULTS OF CLOTHIAPIN AND PERPHENAZINE IN SCHIZOPHRENIA. 105829 13-08  
COMPARISON OF PROCHLORPERAZINE, PERPHENAZINE, AND OCTOCLOTHEPIN IN ERETHISMIC OLIGOPHRENIA. 105834 13-14  
A PSYCHODERMATOLOGICAL STUDY OF A COMBINATION OF TWO COMPOUNDS RESULTING IN A MIXED REACTION, ANTIDEPRESSIVE AND TRANQUILIZING (AMITRIPTYLINE - PERPHENAZINE). 121753 13-07
- PERSISTENCE**  
PERSISTENCE OF NEUROLOGICAL SYMPTOMS DUE TO NEUROLEPTIC DRUGS. 088145 13-15  
PERSISTENCE OF DOSE RELATED BEHAVIOUR IN MICE. 093953 13-04
- PERSISTENT**  
FURTHER STUDIES ON THE NATURE OF PERSISTENT RESERPINE BINDING: EVIDENCE FOR REVERSIBLE AND IRREVERSIBLE BINDING. 086820 13-03  
PERSISTENT INCREASE IN BRAIN SEROTONIN TURNOVER AFTER CHRONIC ADMINISTRATION OF LSD IN THE RAT. 099828 13-03  
PERSISTENT TARDIVE DYSKINESIA. 099993 13-15  
PERSISTENT PHENOTHIAZINE DYSKINESIA TREATED WITH TETRABENAZINE. 101988 13-11  
THIOPROPAZATE HYDROCHLORIDE IN PERSISTENT DYSKINESIA. 101989 13-11  
THIOPROPAZATE HYDROCHLORIDE IN PERSISTENT DYSKINESIA. 106487 13-11  
TREATMENT OF PERSISTENT MENTAL CHANGES IN CHILDREN WITH EPILEPSY. 109947 13-14
- PERSISTENTLY**  
REGIONAL DISTRIBUTION OF PERSISTENTLY BOUND RESERPINE IN RAT BRAIN. 105704 13-03
- PERSONAL**  
EVALUATION OF THE THERAPEUTIC SIGNIFICANCE OF THE PREPARATION IB-503 ON THE BASIS OF PERSONAL CLINICAL EXPERIENCE OVER A PERIOD OF FOUR YEARS. 122947 13-09
- PERSONALITY**  
PREDICTION OF DRUG EFFECT IN PERSONALITY DISORDERS. 088295 13-17  
APPROACHES TO MEASURING THE EFFICACY OF DRUG TREATMENT OF PERSONALITY DISORDERS: AN ANALYSIS AND PROGRAM. 095542 13-10  
INTERACTION OF PERSONALITY AND TREATMENT CONDITIONS ASSOCIATED WITH SUCCESS IN A SMOKING CONTROL PROGRAM. 108268 13-17  
PHARMACOLOGICAL TREATMENTS FOR PERSONALITY DISORDERS. 121428 13-04
- PERSPECTIVES**  
THE PSYCHOPHARMACOLOGY OF DEPRESSION: PERSPECTIVES IN RESEARCH. 091119 13-10  
CLINICAL PERSPECTIVES IN PSYCHOPHARMACOLOGY. 094122 13-17  
SOME PHARMACOLOGICAL PERSPECTIVES ON THE OPIATE NARCOTICS WITH SPECIAL CONSIDERATION OF HEROIN. 111518 13-14
- PERTAINING**  
PSYCHOPHARMACOLOGICAL PROFILE OF A POTENTIAL ANTIDEPRESSANT PERTAINING TO THE PYRIDOBENZODIAZEPINE SERIES. 091558 13-02

## Subject Index

- PETHIDINE**  
THE EFFECT OF PETHIDINE ON THE 5-HYDROXYTRYPTAMINE AND 5-HYDROXYINDOLEACETIC ACID CONTENT OF THE MOUSE BRAIN. 106847 13-03  
ROLE OF BRAIN MONOAMINES IN THE FATAL HYPERTHERMIA INDUCED BY PETHIDINE OR IMIPRAMINE IN RABBITS PRETREATED WITH PARGYLINE. 109197 13-03
- PEYOTE**  
PEYOTE CONSTITUENTS: CHEMISTRY, BIOGENESIS, AND BIOLOGICAL EFFECTS. 069047 13-12
- PHARMACEUTICAL**  
ON THE EFFECT OF PHARMACEUTICAL FORMULATION ON THIORIDAZINE ABSORPTION. 120830 13-13
- PHARMACO-ELECTROENCEPHALOGRAPHY**  
QUANTITATIVE PHARMACO-ELECTROENCEPHALOGRAPHY IN EARLY EVALUATION OF PSYCHOTROPIC DRUGS. 118968 13-16
- PHARMACOKINETIC**  
A PHARMACOKINETIC ANALYSIS OF LITHIUM CARBONATE ABSORPTION FROM SEVERAL FORMULATIONS IN MAN. 100258 13-07
- PHARMACOKINETICS**  
PHARMACOKINETICS OF DIAZEPAM IN DOGS, MICE AND HUMANS. 106616 13-13  
PHARMACOKINETICS AND BIOLOGICAL EFFECTS OF NORTRIPTYLINE IN MAN. 112297 13-13  
STUDIES ON THE METABOLISM AND PHARMACOKINETICS OF NORTRIPTYLINE AND DESMETHYLIMIPRAMINE IN MAN. 122579 13-13
- PHARMACOLOGIC**  
PHARMACOLOGIC CONSIDERATIONS IN THE TREATMENT OF ANXIETY AND DEPRESSION IN MEDICAL PRACTICE. 074974 13-10  
PHARMACOLOGIC STUDIES WITH ABBOTT-30360, AN ANALGESIC TRANQUILIZER, AND ITS ANALOGUES. 077991 13-02  
DRUG-INDUCED DYSKINESIA IN MONKEYS: A PHARMACOLOGIC MODEL EMPLOYING 6-HYDROXYDOPAMINE. (UNPUBLISHED PAPER). 105426 13-03  
SOME PHARMACOLOGIC CORRELATES TO MARIJUANA USE. (UNPUBLISHED PAPER). 107886 13-15  
STUDIES ON MORPHINE DEMONSTRATING THE PHENOMENA OF PHARMACOLOGIC TOLERANCE, BEHAVIORAL TOLERANCE AND BEHAVIORAL HABITUATION. (PH.D. DISSERTATION). 125242 13-04
- PHARMACOLOGICAL**  
CHEMISTRY AND PHARMACOLOGICAL EVALUATION OF 1-PHENYL-2-PROPANOLS AND 1-PHENYL-2-PROPANONES. 087062 13-02  
PHARMACOLOGICAL STUDIES OF FLUPHENAZINE AND NORTRIPTYLINE IN COMBINATION IN MAN. 089325 13-13  
PHARMACOLOGICAL STUDY OF A NEWLY DERIVED NEUROLEPTIC, OXAFUMAZINE. 094620 13-02  
PHARMACOLOGICAL STUDIES OF 5-METHYL-8-ETHYL-SULFONYL-10-(2-DIMETHYLAMINOETHYL 5H BENZODIAZEPINEONE (SM-307), AN ANTIDEPRESSIVE SUBSTANCE. 098303 13-03  
CRITICAL COMMENTARY ON THE CONCEPT OF NEUROLEPTICS (BASED ON PHARMACOLOGICAL AND CLINICAL FINDINGS WITH CLOZAPINE). 099027 13-17  
PHARMACOLOGICAL COMPARISON OF PROSTAGLANDIN-F-2-ALPHA, SEROTONIN AND NOREPINEPHRINE ON CEREBROVASCULAR TONE OF MONKEY. 099653 13-03  
SOME BIOCHEMICAL AND PHARMACOLOGICAL ACTIONS OF (-)ERYTHRO-META-(META-CHLOROBENZYL)OXY 2 (1-AMINOETHYL) BENZYL ALCOHOL: A DERIVATIVE OF METARAMINOL. 101702 13-03  
PHARMACOLOGICAL PROTECTION AGAINST HYPOXIA INDUCED AMNESIA IN RATS. 104145 13-04  
MEASUREMENT OF PHARMACOLOGICAL DEPRESSION OF EXPLORATORY ACTIVITY IN MICE: A CONTRIBUTION TO THE PROBLEM OF TIME ECONOMY AND SENSITIVITY. 104704 13-06  
PHARMACOLOGICAL STUDIES ON NEW POTENT CENTRAL DEPRESSANTS, 8-CHLORO-6-PHENYL-4H-5-TRIAZOLOBENZODIAZEPINE (D-40TA) AND ITS 1 METHYL ANALOGUE (D-65MT). 105392 13-02

## Psychopharmacology Abstracts

- CLINICAL AND PHARMACOLOGICAL INVESTIGATION OF A NEW PSYCHOTROPIC DRUG SULPIRIDE (DOGMATIL). 105825 13-07  
PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN: II. INFLUENCE ON BEHAVIOR IN RATS. 105838 13-04  
PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN: I. THE ACTION ON THE CENTRAL NERVOUS SYSTEM IN RODENT 105839 13-02  
PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN: III. ELECTROENCEPHALOGRAPHIC STUDY IN RABBITS. 105840 13-03  
PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN: IV. ANTIANDRENERGIC ACTION AND INFLUENCE ON BRAIN MONOAMINES. 105841 13-03  
PHARMACOLOGICAL ACTION MECHANISMS OF NARCOTIC AGENTS. 107512 13-12  
LEVODOPA: A REVIEW OF ITS PHARMACOLOGICAL PROPERTIES AND THERAPEUTIC USES WITH PARTICULAR REFERENCES TO PARKINSONISM. 110845 13-11  
SOME PHARMACOLOGICAL PERSPECTIVES ON THE OPIATE NARCOTICS WITH SPECIAL CONSIDERATION OF HEROIN. 111518 13-14  
PHARMACOLOGICAL PROPERTIES OF CARBIDINE. 113519 13-04  
EFFECT OF KIDNEY INJURY ON SOME PHARMACOLOGICAL PROPERTIES OF PHENOTHIAZINE DERIVATIVES. 119689 13-05  
PHARMACOLOGICAL OBSERVATIONS ON THE VAS-DEFERENS OF THE MOUSE. 120409 13-03  
PHARMACOLOGICAL INTERACTION OF LORAZEPAM WITH THIOPTONE SODIUM AND SKELETAL NEUROMUSCULAR BLOCKING DRUGS. 120410 13-03  
PHARMACOLOGICAL AND BIOPHYSICAL AGENTS AND BEHAVIOR. 121321 13-14  
PHARMACOLOGICAL TREATMENTS FOR PERSONALITY DISORDERS. 121428 13-04  
BIOCHEMICAL AND PHARMACOLOGICAL PROPERTIES OF P-AMINO-GAMMA-MORPHOLINO BUTYROPHENONE (FG-5310), A NEW SELECTIVE MAO INHIBITOR. 123272 13-03  
PHARMACOLOGICAL BLOCKADE OF AMPHETAMINE EFFECTS IN SUBJECTS DEPENDENT ON CENTRAL STIMULANTS. 123292 13-13  
LEARNING STRATEGY AND ITS TRANSFER UNDER THE INFLUENCE OF PHARMACOLOGICAL STRESS. 125921 13-14
- PHARMACOLOGICALLY**  
PHARMACOLOGICALLY INDUCED PSYCHOSES. 087189 13-15
- PHARMACOLOGIST**  
THE PHARMACOLOGIST - CLINICAL INVESTIGATOR DIALOGUE IN EVALUATION OF NEW PSYCHOTHERAPEUTIC DRUGS. 078956 13-07
- PHARMACOLOGY**  
PHARMACOLOGY OF CHLORPROMAZINE: CLINICAL STUDIES. 087364 13-13  
THE PHARMACOLOGY OF DISULFIRAM IN THE TREATMENT OF ALCOHOLISM. 088510 13-13  
BIOCHEMICAL PHARMACOLOGY OF CATECHOLAMINES AND ITS CLINICAL IMPLICATIONS (UNPUBLISHED PAPER). 092856 13-03  
PHARMACOLOGY AND MECHANISMS OF ACTION OF DIPHENHYLDANTOIN. 093933 13-03  
BIOCHEMISTRY AND PHARMACOLOGY. 098400 13-17  
EFFECTS OF APOMORPHINE AND AMPHETAMINE IN RATS WITH A PERMANENT CATALEPSY INDUCED BY DIENCEPHALIC LESION. PHARMACOLOGY. 105118 13-03  
THE PHARMACOLOGY OF PROPANEDIOL CARBAMATES. 108521 13-13  
THE PHARMACOLOGY OF PERIPHERAL AUDITORY PROCESSES; COCHLEAR PHARMACOLOGY. 108523 13-13  
THE PHARMACOLOGY OF RAPID EYE MOVEMENT SLEEP. 108524 13-14  
ADVANCES IN PHARMACOLOGY AND CHEMOTHERAPY. 108525 13-17  
PARKINSONISM - PHYSIOLOGY AND PHARMACOLOGY. 111598 13-13

- CHEMISTRY AND PHARMACOLOGY OF MARIJUANA. 111998 13-17
- ANXIOLYTIC SEDATIVES, I. SYNTHESIS AND PHARMACOLOGY OF BENZODIAZEPINOXAZOLE DERIVATIVES AND ANALOGS. 114765 13-01
- PHARMACOLOGY OF NEW MINOR TRANQUILIZERS, BENZODIAZEPINOXAZOLE DERIVATIVES. 116385 13-02
- PHARMACOLOGY OF NARCOTICS AND ANTAGONISTS AS RELATED TO DRUG ABUSE. 116814 13-13
- CLINICAL PHARMACOLOGY AND PHARMACOTHERAPY. 125866 13-17
- PHARMACOTHERAPY**
- POSSIBILITIES OF ACCELERATING THE ONSET OF THE EFFECT OF ANTIDEPRESSIVE PHARMACOTHERAPY. 086076 13-14
- PHARMACOTHERAPY. 098389 13-09
- PHARMACOTHERAPY IN SCHIZOPHRENIA. 099740 13-08
- POSSIBILITIES OF ACCELERATING THE ONSET OF EFFECT OF ANTIDEPRESSIVE PHARMACOTHERAPY. 101505 13-10
- ON THE PHARMACOTHERAPY OF EPILEPSY IN CHILDREN. 102826 13-17
- CLINICAL POSSIBILITIES OF THE EVALUATION OF PHARMACOTHERAPY, INVESTIGATED BY TESTING THE EFFECTIVENESS OF THE NEUROLEPTIC DRUG PIMOZIDE. 104226 13-07
- PHARMACOTHERAPY IN THE PREMENSTRUAL TENSION. 105908 13-14
- PHARMACOTHERAPY OF NEUROSIS - BENZODIAZEPINE. 123049 13-10
- CLINICAL PHARMACOLOGY AND PHARMACOTHERAPY. 125866 13-17
- PHASES**
- OBSERVATIONS ON CHANGES IN THE CLINICAL PHENOMENOLOGY OF MANIC PHASES UNDER EXTENDED LITHIUM THERAPY. 103797 13-14
- PHASIC**
- MEASUREMENT OF PHASIC INTEGRATED POTENTIALS (PIP) DURING TREATMENT WITH PARA-CHLOROPHENYLALANINE (PCPA) (UNPUBLISHED PAPER). 093258 13-14
- PHENACETIN**
- STERILITY FROM PHENACETIN. 094922 13-03
- PHENAMINE**
- THE ULTRASTRUCTURE OF THE SYNAPTIC APPARATUS FOLLOWING INTRODUCTION OF PHENAMINE AND HALOPERIDOL. 107720 13-03
- STRUCTURE OF THE NEURON AND INTERNEURON LINKS IN THE BRAIN OF RATS UNDER THE EFFECT OF CAFFEINE AND PHENAMINE. 111137 13-03
- EFFECT OF PHENAMINE INDUCED INSOMNIA AND OF SUBSEQUENT SLEEP ON PROTEIN CONTENT IN THE NEURONS AND GLIAL CELLS OF THE SUPRAOPTIC AND RED NUCLEI OF THE BRAIN. 111831 13-03
- EFFECT OF CHLORPROMAZINE AND PHENAMINE ON THE BASAL METABOLISM AND CONDITIONED REFLEX ACTIVITY IN RATS UNDER STRESS CONDITIONS. 113521 13-03
- PHENCYCLIDINE**
- COMPARATIVE LEARNING IMPAIRMENT AND AMNESIA BY SCOPOLAMINE PHENCYCLIDINE, AND KETAMINE. 101352 13-04
- VARIATION IN HYDROXYTRYPTAMINE METABOLISM IN THE RAT: EFFECTS ON THE NEUROCHEMICAL RESPONSE TO PHENCYCLIDINE. 105403 13-03
- PHENELZINE**
- THE INFLUENCE OF PHENELZINE ON THE TOXICITY OF CHOLINERGIC DRUGS MODIFIED BY RESERPINE. 098294 13-05
- EFFECT OF PHENELZINE ON THE METABOLISM AND MEMBRANAL TRANSPORT OF GLUCOSE IN BRAIN. 108287 13-03
- PHENETHYLAMINES**
- PSYCHOTOMIMETIC PHENETHYLAMINES. 087351 13-17
- PHENMETRAZINE**
- PHYSIOLOGIC, SUBJECTIVE AND BEHAVIORAL EFFECTS OF AMPHETAMINE, METHAMPHETAMINE, EPHEDRINE, PHENMETRAZINE, AND METHYLPHENIDATE IN MAN. 095003 13-13
- REPEATED EPISODES OF PHENMETRAZINE PSYCHOSIS. 105894 13-15
- PSYCHOTIC EPISODES PROVOKED BY A COMBINATION OF BARBITURATES AND PHENMETRAZINE. 112436 13-15
- PHENOBARBITAL**
- PHENOBARBITAL TECHNIQUE FOR TREATMENT OF BARBITURATE DEPENDENCE. 071568 13-16
- FACILITATION AND IMPAIRMENT OF AVOIDANCE RESPONDING BY PHENOBARBITAL SODIUM, CHLORDIAZEPOXIDE AND DIAZEPAM - THE ROLE OF PERFORMANCE BASE LINES. 082881 13-04
- PARTICLE SIZE INFLUENCES IN PARENTERAL THERAPY: PHENOBARBITAL STUDY. 088290 13-03
- COMPARATIVE EVALUATION OF DIAZEPAM (VALIUM) AND PHENOBARBITAL: FOR THE RELIEF OF ANXIETY RELATED SYMPTOMS IN PATIENTS HOSPITALIZED FOR ACUTE MYOCARDIAL INFARCTION. 100626 13-14
- PHENOBARBITAL AS PROPHYLAXIS FOR FEBRILE CONVULSIONS: A PRELIMINARY REPORT. 100845 13-11
- A STUDY OF THE INDUCTION EFFECT OF PHENOBARBITAL, DIAZEPAM, OXAZEPAM IN THE DOG. 123293 13-03
- TREATMENT OF HYPERBILIRUBINEMIA IN PREMATURE AND NEWBORN INFANTS WITH PHENOBARBITAL AND LIGHT THERAPY. 125867 13-13
- PHENOBARBITONE**
- THE EFFECT OF ETHANOL ON PHENOBARBITONE AND PENTOBARBITONE ABSORPTION INTO RAT BLOOD AND BRAIN. 122551 13-03
- PHENOL**
- IMPAIRED BILIARY EXCRETION OF PHENOL 3,6 DIBROMOPHTHALEIN DISULFONATE IN NEONATAL GUINEA-PIGS. 089284 13-03
- PHENOMENA**
- STUDIES ON MORPHINE DEMONSTRATING THE PHENOMENA OF PHARMACOLOGIC TOLERANCE, BEHAVIORAL TOLERANCE AND BEHAVIORAL HABITUATION. (PH.D. DISSERTATION). 125242 13-04
- PHENOMENOLOGY**
- OBSERVATIONS ON CHANGES IN THE CLINICAL PHENOMENOLOGY OF MANIC PHASES UNDER EXTENDED LITHIUM THERAPY. 103797 13-14
- PHENOTHIAZINE**
- USE OF CERIC SULFATE AND CUPRIC PERCHLORATE FOR TITRIMETRIC ANALYSES OF PHENOTHIAZINE DERIVATIVES. 082763 13-06
- THE EFFECTS OF PHENOTHIAZINE MEDICATION ON SKIN CONDUCTANCE AND HEART RATE IN SCHIZOPHRENIC PATIENTS. 085015 13-08
- SUBSTITUTED PHENOTHIAZINE ANTIPSYCHOTICS. 085473 13-17
- ECG PICTURE IN THE COURSE OF TREATMENT OF SCHIZOPHRENIA WITH PHENOTHIAZINE DERIVATIVES. 086596 13-13
- ACUTE PHENOTHIAZINE INTOXICATION IN CHILDREN. 088512 13-15
- PHENOTHIAZINE DERIVATIVES AND BRAIN ZINC. 088646 13-03
- THE HOSPITALIZATION PRONENESS SCALE AS A PREDICTOR OF RESPONSE TO PHENOTHIAZINE TREATMENT. 092770 13-08
- PHENOTHIAZINE INTAKE AND STAFF ATTITUDES. 093270 13-17
- REPLACEMENT OF PROGESTERONE WITH A PHENOTHIAZINE IN THE INDUCTION OF MATERNAL BEHAVIOR IN THE OVARECTOMIZED NULLIPAROUS RAT. 095383 13-04
- CARDIOTOXICITY OF TRICYCLIC ANTIDEPRESSANTS: PHENOTHIAZINE AND IMIPRAMINE DERIVATIVES. 097553 13-15
- EXTRAPYRAMIDAL DISORDERS AFTER PROLONGED PHENOTHIAZINE THERAPY. 099120 13-15
- PHENOTHIAZINE INDUCED HYPERGLYCEMIA: RELATION TO CNS AND ADRENAL EFFECTS. 100221 13-03
- METABOLISM OF PROPRANOLOL BY RAT LIVER MICROSOMES AND ITS INHIBITION BY PHENOTHIAZINE AND TRICYCLIC ANTIDEPRESSANT DRUGS. 101703 13-03
- PERSISTENT PHENOTHIAZINE DYSKINESIA TREATED WITH TETRABENAZINE. 101988 13-11
- FATTY ACIDS OF LIVER MITOCHONDRIAL AND MICROSOMAL LIPIDS IN THE RAT EXPOSED TO PHENOTHIAZINE DERIVATIVES. 102805 13-03

- RESERPINE THERAPY OF PHENOTHIAZINE INDUCED DYSKINESIA.**  
103917 13-11
- LONG-ACTING PHENOTHIAZINE IN PSYCHIATRIC PRACTICE.**  
106813 13-08
- PHENOTHIAZINE EFFECTS ON AUDITORY SIGNAL DEFLECTION IN  
PARANOID AND NONPARANOID SCHIZOPHRENICS.**  
106918 13-08
- EFFECTS OF PHENOTHIAZINE TRANQUILIZERS ON THE CYCLIC 3,5  
ADENOSINE MONOPHOSPHATE SYSTEM OF RAT BRAIN.**  
107123 13-03
- PHENOTHIAZINE INDUCED CARDIAC ARRHYTHMIA.**  
108513 13-15
- INDUCED FORMATION OF PHENYLALANINE AMMONIA LYASE AND  
PISATIN BY CHLORPROMAZINE AND OTHER PHENOTHIAZINE  
DERIVATIVES.**  
108716 13-17
- METABOLISM OF THE PHENOTHIAZINE DRUG PERAZINE BY LIVER AND  
LUNG MICROSOMES FROM VARIOUS SPECIES.**  
108718 13-03
- MUTAGENIC ACTIVITY OF PHENOTHIAZINE AND OTHER DRUGS.**  
113434 13-03
- EFFECT OF KIDNEY INJURY ON SOME PHARMACOLOGICAL PROPERTIES  
OF PHENOTHIAZINE DERIVATIVES.**  
119689 13-05
- THE ASSOCIATION OF BENZODIAZEPINE AND PHENOTHIAZINE IN  
SCHIZOPHRENIA.**  
121458 13-08
- EXTRAPYRAMIDAL MOTORIC SYMPTOMS AND EEG CHANGES AFTER  
APPLICATION OF PHENOTHIAZINE DERIVATIVES.**  
123602 13-15
- PHENOTHIAZINES**  
**LONG-ACTING PHENOTHIAZINES IN SCHIZOPHRENIA.**  
087239 13-15
- LONG-ACTING PHENOTHIAZINES IN SCHIZOPHRENIA.**  
088351 13-17
- LONG-ACTING PHENOTHIAZINES IN SCHIZOPHRENIA.**  
099735 13-08
- THE EFFECTS OF SELECTED PHENOTHIAZINES ON THE SLEEP OF CATS.**  
106525 13-04
- PHENOTHIAZINES AND THE THERAPISTS FEAR OF IDENTIFICATION.**  
113928 13-17
- EYE CHANGES IN CONNECTION WITH NEUROLEPTIC TREATMENT  
ESPECIALLY CONCERNING PHENOTHIAZINES AND THIOXANTHINES.**  
115395 13-13
- CORRELATION OF CHEMICAL STRUCTURE OF PHENOTHIAZINES WITH  
THEIR CORONARY DILATOR AND ANTIARRHYTHMIC ACTIVITIES.**  
120929 13-03
- PHENOXYBENZAMINE**  
**ANTAGONISM BY PROPRANOLOL OF THE INHIBITORY EFFECT OF  
PHENOXYBENZAMINE ON NORADRENALINE UPTAKE IN VIVO.**  
122553 13-03
- INFLUENCE OF COCAINE AND PHENOXYBENZAMINE ON NORADRENALINE  
UPTAKE AND RELEASE.**  
125959 13-03
- PHENTOLAMINE**  
**CENTRAL ACTION OF PHENTOLAMINE ADMINISTERED  
INTRAVENTRICULARLY IN THE RAT.**  
104434 13-03
- PHENYL-ALKYL**  
**THE EFFECT OF PHENYL-ALKYL HYDRAZINES ON CAT BLOOD PRESSURE.**  
122046 13-03
- PHENYLACETONE**  
**PHENYLACETONE OXIME -- AN INTERMEDIATE IN THE OXIDATIVE  
DEAMINATION OF AMPHETAMINE.**  
108398 13-03
- PHENYLALANINE**  
**EFFECTS OF EXCESS PHENYLALANINE ON IN VITRO AND IN VIVO RNA  
AND PROTEIN SYNTHESIS AND POLYRIBOSOME LEVELS IN BRAINS OF  
MICE.**  
086806 13-03
- DAILY RHYTHMIC CHANGES IN HEPATIC PHENYLALANINE HYDROXYLASE  
ACTIVITY: ROLE OF DIETARY PHENYLALANINE.**  
088557 13-03
- INDUCED FORMATION OF PHENYLALANINE AMMONIA LYASE AND  
PISATIN BY CHLORPROMAZINE AND OTHER PHENOTHIAZINE  
DERIVATIVES.**  
108716 13-17
- PHENYLETHANOLAMINE**  
**KINETICS OF THE GLUCOCORTICOID MEDIATED INDUCTION OF  
PHENYLETHANOLAMINE N METHYL TRANSFERASE IN THE  
HYPOPHYSECTOMIZED RAT.**  
108720 13-03
- PHENYLPHETHANOLAN**  
**ASPECTS OF THE GASTRIC ACID ANTISECRETORY ACTIVITY OF 3,3-  
DIMETHYL-1-(3-METHYLAMINOPROPYL)-1-PHENYLPHETHANOLAN: A  
BLOCKER OF NOREPINEPHRINE UPTAKE.**  
106526 13-03
- PHENYTOIN**  
**PHENYTOIN ENCEPHALOPATHY?**  
101763 13-05
- SERUM FOLIC ACID AND PHENYTOIN LEVELS IN PERMANENTLY  
HOSPITALIZED EPILEPTIC PATIENTS RECEIVING ANTICONVULSANT  
DRUG THERAPY.**  
108727 13-15
- PHENYTOIN AND THE PSEUDOLYMPHOMA SYNDROME.**  
108799 13-15
- PHOBIA**  
**SCHOOL PHOBIA: DIAGNOSTIC CONSIDERATIONS IN THE LIGHT OF  
IMIPRAMINE EFFECTS.**  
093262 13-14
- PHOBIAS**  
**DESENSITIZATION AND FLOODING (IMPLOSION) IN TREATMENT OF  
PHOBAS.**  
093231 13-14
- PRELIMINARY COMMUNICATION: 1. DECLINING DOSE DRUG  
DESENSITIZATION FOR PHOBAS.**  
100736 13-10
- PHOBIC**  
**TREATMENT OF PHOBIC ANXIETY AND PSYCHOGENIC IMPOTENCE BY  
SYSTEMATIC DESENSITIZATION EMPLOYING METHOHEXITONE  
INDUCED RELAXATION.**  
099320 13-10
- TREATMENT OF OBSSIONAL ILLNESSES AND PHOBIC ANXIETY STATES  
WITH CLOMIPRAMINE.**  
105889 13-10
- SOME APPROACHES TO THE TREATMENT OF PHOBIC DISORDERS.**  
109845 13-10
- PHOSCHLORIDE**  
**HALLUCINOSIS FOLLOWING INTOXICATION WITH PHOSCHLORIDE R-20.**  
122950 13-15
- PHOSPHOKINASE**  
**PYREXIA AND RAISED SERUM CREATINE PHOSPHOKINASE AFTER  
AMYLOBARBITONE.**  
086511 13-15
- EFFECTS OF ISOPROTERENOL ON RAT PLASMA CREATINE  
PHOSPHOKINASE ACTIVITY.**  
106150 13-03
- CHLORPROMAZINE INDUCED HYPOTHERMIA AND INCREASED PLASMA  
CREATINE PHOSPHOKINASE ACTIVITY.**  
108280 13-03
- RELEASE OF CREATINE PHOSPHOKINASE FROM MUSCLE -- 1. EFFECT OF  
POLYMYXIN B, COMPOUND 48/80, AND SEROTONIN.**  
108719 13-05
- PHOSPHORUS**  
**BIOCHEMICAL AND BEHAVIOURAL EFFECTS OF SOME HALO-SUBSTITUTED  
VINYL PHOSPHORUS ESTERS.**  
102102 13-03
- PHOSPHORYLASE**  
**EFFECT OF TRANQUILIZERS AND ANTIDEPRESSANTS ON GLYCOGEN  
PHOSPHORYLASE OF RAT BRAIN.**  
108283 13-03
- PHOSPHORYLATION**  
**EFFECTS OF CHLORDIAZEPOXIDE AND DIAZEPAM ON RESPIRATION AND  
OXIDATIVE PHOSPHORYLATION IN RAT BRAIN MITOCHONDRIA.**  
108284 13-03
- PHOTIC**  
**PHOTIC RESPONSES IN HYPERKINESIS OF CHILDHOOD.**  
106862 13-11
- PHOTICALLY**  
**EFFECTS OF PSILOCYBIN, DIMETHYLTRYPTAMINE, MESCALINE AND  
VARIOUS LYSERGIC ACID DERIVATIVES ON THE EEG AND ON  
PHOTICALLY INDUCED EPILEPSY (PAPIO-PAPIO).**  
109620 13-03
- PHOTOSENSITIVE**  
**BEHAVIORAL AND ELECTROGRAPHIC EFFECTS OF D-LYSERGIC ACID  
DIETHYLAMIDE (LSD-25) ON THE PHOTOSENSITIVE PAPIO-PAPIO.**  
086702 13-03
- PHYSICAL**  
**THE EFFECT OF P-CHLOROPHENYLALANINE ON OPIATE INDUCED  
RUNNING, ANALGESIA, TOLERANCE AND PHYSICAL DEPENDENCE IN  
MICE.**  
082781 13-04
- SOME RELATIONS BETWEEN TOLERANCE AND PHYSICAL DEPENDENCE TO  
MORPHINE IN MICE.**  
086809 13-04
- PHYSICAL DEPENDENCE ON MORPHINE FAILS TO INCREASE SEROTONIN  
TURNOVER RATE IN RAT BRAIN.**  
088994 13-03
- TOLERANCE TO OPIOID NARCOTICS: TIME COURSE AND REVERSIBILITY  
OF PHYSICAL DEPENDENCE IN MICE.**  
098926 13-03
- THE DEVELOPMENT OF TOLERANCE TO AND OF PHYSICAL DEPENDENCE  
ON MORPHINE FOLLOWING INTRAVENTRICULAR INJECTION IN THE  
RAT.**  
102883 13-04

- A SIMPLE QUANTITATIVE METHOD FOR THE EVALUATION OF PHYSICAL DEPENDENCE LIABILITY OF MORPHINE IN MICE. 102885 13-04
- PHYSICAL PERFORMANCE OF MICE TREATED WITH PROPRANOLOL, SOTALOL AND INPEA. 120818 13-04
- PHYSICIANS**
- TRIAL MANAGEMENT IN PSYCHOPHARMACOLOGY: THE ROLES AND TASKS OF AN INDUSTRY PHYSICIAN. 078957 13-17
- PHYSICIAN CHARACTERISTICS AND ATTITUDES TOWARD LEGITIMATE USE OF PSYCHOTHERAPEUTIC DRUGS. 093860 13-17
- PHYSICIANS**
- A PHYSICIANS RESPONSE TO THE PSYCHEDELIC EXPERIENCE IN THE DEATH ENCOUNTER. 089186 13-12
- DRUGS, PHYSICIANS AND THE MEDICAL MODEL. 102448 13-17
- NEURO AND PSYCHOTROPIC DRUGS IN PRESCRIPTIONS OF PHYSICIANS IN THE DISTRICT PRAGUE 6. 106098 13-17
- PHYSIOLOGIC**
- THE SINGLE SOCIOPATH: PHYSIOLOGIC AND SOCIOLOGIC CHARACTERISTICS. 085192 13-11
- REVIEW OF THE EFFECTS IN MAN OF MARIJUANA AND TETRAHYDROCANNABINOLS ON SUBJECTIVE STATE AND PHYSIOLOGIC FUNCTIONING (UNPUBLISHED PAPER). 092101 13-13
- PHYSIOLOGIC, SUBJECTIVE AND BEHAVIORAL EFFECTS OF AMPHETAMINE, METHAMPHETAMINE, EPHEDRINE, PHENMETRAZINE, AND METHYLPHENIDATE IN MAN. 095003 13-13
- PHYSIOLOGICAL**
- L-TRYPTOPHAN AS A PHYSIOLOGICAL HYPNOTIC. 087348 13-14
- ON THE FUNCTIONAL RELATIONSHIP BETWEEN PHYSIOLOGICAL AND PENTETRAZOL INDUCED RHYTHMIC ACTIVITY IN THE EEG OF UNRESTRAINED RATS. 113567 13-03
- THE PSYCHODYNAMIC IMPLICATIONS OF THE PHYSIOLOGICAL STUDIES ON PSYCHOMIMETIC DRUGS. 115196 13-17
- PHYSIOLOGICALLY**
- ANXIETY AND THE EFFECTS OF SODIUM LACTATE ASSESSED CLINICALLY AND PHYSIOLOGICALLY. 100780 13-10
- PHYSIOLOGY**
- PARKINSONISM - PHYSIOLOGY AND PHARMACOLOGY. 111598 13-13
- PHYSOSTIGMINE**
- THE REVERSAL OF ANTICHOLINERGIC DRUG-INDUCED DELIRIUM AND COMA WITH PHYSOSTIGMINE. 079833 13-14
- INTERACTIONS OF SCOPOLAMINE AND PHYSOSTIGMINE WITH ECS AND ONE TRIAL LEARNING. 08582 13-04
- PHYSOSTIGMINE THERAPY IN ACUTE TRICYCLIC ANTIDEPRESSANT POISONING. 101864 13-13
- PHYSOSTIGMINE AND PENTOBARBITAL: BIPHASIC INTERACTION IN MICE. 104329 13-03
- THE EFFECT OF PHYSOSTIGMINE ON THE PERCEPTION AND CONSOLIDATION PHASE OF MEMORY AND LEARNING IN ALCOHOLICS. 105917 13-14
- EFFECT OF PHYSOSTIGMINE ON THE INHIBITORY ACTION OF SCOPOLAMINE IN MAN. 105918 13-14
- ON THE INTERACTION OF SCOPOLAMINE AND PHYSOSTIGMINE IN MAN. 105995 13-14
- INTERACTIONS OF MORPHINE AND NALORPHINE WITH PHYSOSTIGMINE ON OPERANT BEHAVIOR IN THE RAT. 107631 13-04
- THE ATTENUATING EFFECT OF STRYCHNINE AND PHYSOSTIGMINE ON DURAL ELECTROCONVULSIVE SHOCK INDUCED RETROGRADE AMNESIA. (PH.D. DISSERTATION). 109358 13-04
- PICRIC**
- ACTION OF PICRIC ACID ON THE EFFECTS OF SOME DRUGS ACTING ON THE CENTRAL NERVOUS SYSTEM, WITH SPECIAL REFERENCE TO OPIOIDS. 103655 13-03
- PICTURES**
- MEDICATION TREATMENT OF VASCULAR HYPOTONIC CONDITION PICTURES. 095131 13-13
- PIG**
- N-DEMETHYLATION AND N-OXIDATION OF IMIPRAMINE BY RAT AND PIG LIVER MICROSOMES. 108290 13-03
- PIGEON**
- DEVELOPMENT OF BEHAVIORAL TOLERANCE TO MORPHINE AND METHADONE USING THE SCHEDULE CONTROLLED BEHAVIOR OF THE PIGEON. 104809 13-04
- PIGEONS**
- EFFECTS OF 1-DELTA-9 AND 1-DELTA8-TRANS-TETRAHYDROCANNABINOL AND CANNABINOL ON SCHEDULE CONTROLLED BEHAVIOR OF PIGEONS AND RATS. 094255 13-04
- PIGMENT**
- THE VIOLET PIGMENT OF LYSERGIC ACID ALKALOID PRODUCING CULTURES OF CLAVICEPS-PASPALI: FERRIC COMPLEX OF 2,3 DIHYDROXYBENZOIC ACID. 100171 13-01
- PILLS**
- PILLS FOR LEARNING: DISPUTE FAILS TO HALT USE OF DRUGS TO CALM HYPERACTIVE CHILDREN. 078100 13-17
- PILOT**
- A PILOT STUDY ON THE USE OF AL-1021 IN THE TREATMENT OF ACUTE SCHIZOPHRENICS. 078944 13-08
- REACTION TIME IN PSYCHIATRIC PATIENTS: PILOT STUDY. 095621 13-15
- LONG-ACTING ANTIPARKINSONIAN DRUGS: I. PILOT STUDY OF BENZETIMIDE (342 CASES). 096113 13-07
- A PILOT STUDY OF GP-45795 IN CHRONIC SCHIZOPHRENICS. 098603 13-08
- CLINICAL INVESTIGATION OF DOXEPIN IN DEPRESSED PATIENTS. PILOT OPEN STUDY, CONTROLLED DOUBLE-BLIND TRIAL VERSUS IMIPRAMINE, AND ALL-NIGHT POLYGRAPHIC STUDY. 099031 13-10
- A PILOT STUDY OF PIMOZIDE IN CHRONIC SCHIZOPHRENIC PATIENTS. 103327 13-07
- THE EFFECT OF METHYLPHENIDATE ON BEHAVIOR OF THREE SCHOOL CHILDREN: A PILOT INVESTIGATION. 108231 13-11
- A PILOT STUDY OF AL-1612 IN CHRONIC SCHIZOPHRENICS. 117024 13-08
- PIMOZIDE**
- CLINICAL EXPERIENCE WITH PIMOZIDE. 074815 13-07
- PIMOZIDE IN CHRONIC SCHIZOPHRENIC PATIENTS. 098613 13-08
- EVALUATION OF CLINICAL EFFICACY OF PIMOZIDE AS MAINTENANCE THERAPY IN CHRONIC SCHIZOPHRENIC PATIENTS. 103326 13-07
- A PILOT STUDY OF PIMOZIDE IN CHRONIC SCHIZOPHRENIC PATIENTS. 103327 13-07
- CLINICAL POSSIBILITIES OF THE EVALUATION OF PHARMACOTHERAPY, INVESTIGATED BY TESTING THE EFFECTIVENESS OF THE NEUROLEPTIC DRUG PIMOZIDE. 104226 13-07
- ANTAGONISM OF D-AMPHETAMINE INDUCED HYPERTHERMIA IN RATS BY PIMOZIDE. 104472 13-03
- RESULTS OF TREATMENT WITH PIMOZIDE. 105827 13-14
- EVALUATION OF THE CLINICAL ACTION OF PIMOZIDE. 118129 13-08
- PINEAL**
- STIMULATION OF (14C) SEROTONIN SYNTHESIS FROM (14C) TRYPTOPHAN BY MESCALINE IN RAT PINEAL ORGAN CULTURES. 088702 13-03
- NEUROENDOCRINE CONTROL OF THE ADENOSINE 3,5 - MONOPHOSPHATE SYSTEM OF BRAIN AND PINEAL GLAND. (UNPUBLISHED PAPER). 099967 13-03
- EFFECT OF NOREPINEPHRINE ON THE CONCENTRATION OF ADENOSINE 3,5 MONOPHOSPHATE OF RAT PINEAL GLAND IN ORGAN CULTURE. (UNPUBLISHED PAPER). 106059 13-03
- PINK-SPOT**
- NOR2-CHLORPROMAZINE SULPHOXIDE, A PINK-SPOT PRODUCED IN VIVO AND IN VITRO FROM CHLORPROMAZINE. 089324 13-03
- PIONEERING**
- IMPLEMENTATION OF PSYCHOTHERAPY BY LIBRIUM IN A PIONEERING RURAL INDUSTRIAL PSYCHIATRIC PRACTICE. 096019 13-10

# Subject Index

- PIP**  
MEASUREMENT OF PHASIC INTEGRATED POTENTIALS (PIP) DURING TREATMENT WITH PARA-CHLOROPHENYLALANINE (PCPA) (UNPUBLISHED PAPER). 093258 13-14
- PIPER-METHYST**  
ON THE SEDATIVE ACTION OF THE KAVA RHIZOME (PIPER-METHYST). 123278 13-03
- PIPERAZINYL-2-PROPANOL**  
1,3-BIS 4-(P-METHOXYPHENYL)PIPERAZINYL-2-PROPANOL (RO-8-2580): A NEW MONOAMINE DEPLETOR. 105408 13-02
- PIPERIZINO**  
EFFECTS OF MORPHOLINO, PYRROLIDINO, PIPERIZINO, AND CYCLOOCTYL DERIVATIVES OF BETA-ALANINE ON BRAIN AMINES AND AMINO ACIDS. 082729 13-04
- PIPERONYL**  
CLINICAL STUDY ON A NEW PSYCHOPHARMACOLOGICAL AGENT: PIPERONYL. 114476 13-11
- PIRIBEDIL**  
CLINICAL STUDY OF PIRIBEDIL WITH SYNDROMES OF INTELLECTUAL DETERIORATION IN AMNESIA. 093701 13-11
- PISATIN**  
INDUCED FORMATION OF PHENYLALANINE AMMONIA LYASE AND PISATIN BY CHLORPROMAZINE AND OTHER PHENOTHIAZINE DERIVATIVES. 108716 13-17
- PITRESSIN**  
EFFECT OF PITRESSIN ON VOLUNTARY ALCOHOL CONSUMPTION IN THE RAT. 102868 13-04
- PITUITARY**  
POSSIBLE ROLE OF THE PITUITARY/ADRENOCORTICAL AXIS IN AGGRESSIVE BEHAVIOUR. 111873 13-04
- PLACEBO**  
THE ROLE OF BODY ATTITUDES AND ACQUIESCENCE IN EPINEPHRINE AND PLACEBO EFFECTS. 079188 13-14  
EFFECTIVENESS OF ANTIDEPRESSANT DRUGS: A TRIPLE-BLIND STUDY COMPARING IMIPRAMINE, DESIPRAMINE, AND PLACEBO. 079289 13-10  
COMPARISON OF MOLIDONE AND PLACEBO IN ANXIOUS DEPRESSED PATIENTS. 086897 13-10  
ARE ANTIDEPRESSANTS BETTER THAN PLACEBO? 092801 13-09  
AN EXPERIMENTAL ANALYSIS OF THE PLACEBO EFFECT. 094921 13-06  
COMPARISON OF PRAZEPAM AND PLACEBO IN THE TREATMENT OF CONVALESCING NARCOTIC ADDICTS. 100259 13-14  
A TECHNIQUE IN THE EVALUATION OF PSYCHOTROPIC MEDICATION BASED ON A PATIENT DEMAND SCHEDULE. COMPARISON OF THE EFFICACY OF OXYPERTINE, DIAZEPAM AND PLACEBO IN ANXIETY. 100538 13-10  
A COMPARISON BETWEEN DIAZEPAM, DIXYRAZINE, OPRIPRAMOL AND PLACEBO IN ANXIETY STATES. 101410 13-10  
EFFECT OF LITHIUM CARBONATE, PLACEBO, AND THIORIDAZINE ON HYPERACTIVE CHILDREN. 101684 13-11  
EFFECTS OF PLACEBO AND FLURAZEPAM ON SLEEP PATTERNS IN INSOMNIAC SUBJECTS. 104367 13-14  
EFFECTS OF DRUG STATE CHANGES UPON TWO-WAY SHUTTLE AVOIDANCE RESPONSES IN RATS, TREATED WITH CHLORDIAZEPOXIDE OR PLACEBO. 117747 13-04
- PLACENTAL**  
PLACENTAL TRANSFER OF DIAZOXIDE AND ITS HAZARDOUS EFFECT ON THE NEWBORN. 086938 13-03
- PLACIDYL**  
ETHCHLORVYNOL (PLACIDYL) ABUSE AND WITHDRAWAL (REVIEW OF CLINICAL PICTURE AND REPORT OF 2 CASES). 088152 13-15
- PLANARIA**  
TEMPORAL EFFECTS OF RNASE AND DNASE IN DISRUPTING ACQUIRED ESCAPE BEHAVIOR IN REGENERATED PLANARIA. 079423 13-04
- PLASMA**  
VALUE OF PLASMA LITHIUM MONITORING. 077708 13-13

# Psychopharmacology Abstracts

- PLASMA DRUG CONCENTRATION AND CLINICAL EFFECT.** 086529 13-13
- PLASMA LEVELS OF PSYCHOTROPIC DRUGS.** 086530 13-16
- CHLORPROMAZINE: CONCENTRATIONS IN PLASMA, EXCRETION IN URINE AND DURATION OF EFFECT.** 086531 13-13
- DRUG PLASMA LEVELS AND CLINICAL EFFECT.** 086532 13-16
- INSULIN RECEPTORS IN THE LIVER: SPECIFIC BINDING OF 125I INSULIN TO THE PLASMA MEMBRANE AND ITS RELATION TO INSULIN BIOACTIVITY (UNPUBLISHED PAPER).** 092377 13-03
- PLASMA CORTICOSTERONE CHANGES FOLLOWING ALTERATIONS IN BRAIN NOREPINEPHRINE AND SEROTONIN.** 098290 13-03
- PLASMA MAGNESIUM CONCENTRATION AND URINARY MAGNESIUM EXCRETION IN RATS TREATED CHRONICALLY WITH MORPHINE.** 099801 13-03
- PLASMA AND BRAIN LITHIUM LEVELS AFTER LITHIUM CARBONATE AND LITHIUM CHLORIDE ADMINISTRATION BY DIFFERENT ROUTES IN RATS.** 099852 13-03
- RADIOASSAY OF CHLORPROMAZINE AND ITS METABOLITES IN PLASMA.** 104372 13-16
- PLASMA MONOAMINE OXIDASE ACTIVITY IN REGULARLY MENSTRUATING WOMEN AND IN AMENORRHEIC WOMEN RECEIVING CYCLIC TREATMENT WITH ESTROGENS AND A PROGESTIN.** 104616 13-13
- RELATIONSHIP BETWEEN PLASMA LEVEL AND THERAPEUTIC EFFECT OF NORTRIPTYLINE.** 105536 13-13
- EFFECTS OF ISOPROTERENOL ON RAT PLASMA CREATINE PHOSPHOKINASE ACTIVITY.** 106150 13-03
- CHLORPROMAZINE INDUCED HYPOTHERMIA AND INCREASED PLASMA CREATINE PHOSPHOKINASE ACTIVITY.** 108280 13-03
- CARBAMAZEPINE PLASMA AND TISSUE LEVELS IN THE RAT.** 108395 13-03
- CHLORPROMAZINE STIMULATION AND L-DOPA SUPPRESSION OF PLASMA PROLACTIN IN MAN.** 109042 13-13
- CHOLINESTERASE ACTIVITY IN THE ERYTHROCYTES AND BLOOD PLASMA OF SCHIZOPHRENIC PATIENTS DURING TREATMENT WITH DIMETHYLOAMINOETHANOLIC ESTERS.** 118204 13-08
- GENETIC CONTROL OF NORTRIPTYLINE KINETICS IN MAN - A STUDY OF RELATIVES OF PROPOSITI WITH HIGH PLASMA CONCENTRATION.** 122578 13-13
- EFFECT OF RESERPINE ON PLASMA LH LEVELS IN OVARIETOMIZED AND CYCLING PROESTRUS RATS.** 125330 13-03
- PLATE**  
MORPHINE INDUCED HYPERALGESIA IN RATS TESTED ON THE HOT PLATE. 086105 13-04
- PLATELETS**  
LABORATORY PREDICTIONS OF INFANTILE AUTISM BASED ON 5-HYDROXYTRYPTAMINE EFFLUX FROM BLOOD PLATELETS AND THEIR CORRELATION WITH THE RIMLAND E-2 SCORE. 082634 13-13
- THE EFFECT OF DRUGS UPON THE UPTAKE OF 5-HYDROXYTRYPTAMINE AND METARAMINOL BY HUMAN PLATELETS.** 087116 13-03
- EFFECTS OF METHYSERGIDE ON PLATELETS INCUBATED WITH RESERPINE.** 109195 13-03
- PLAYROOM**  
PLAYROOM OBSERVATIONS OF HYPERACTIVE CHILDREN ON MEDICATION. 106308 13-11
- PLEXONAL**  
TREATMENT OF EMOTIONAL SYMPTOMS AND INSOMNIA WITH PLEXONAL. 099158 13-11
- PLEXUS**  
AMINE UPTAKE CHARACTERISTICS OF THE GUINEA-PIG AUERBACH PLEXUS. 120466 13-03
- THE UPTAKE OF MORPHINE BY THE CHOROID PLEXUS AND CEREBRAL CORTICAL SLICES OF ANIMALS CHRONICALLY TREATED WITH MORPHINE.** 122543 13-03
- PMEA**  
CROSS-TOLERANCE BETWEEN P-METHOXYPHENYLETHYLAMINE (PMEA), 3,4-DEMETHOXYPHENYLETHYLAMINE (DMPEA) AND P-BROMOMETHOAMPHETAMINE (PBMA, V111). 123270 13-04

## POISONING

ACCIDENTAL AND SELF-INDUCED POISONING IN GALVESTON COUNTY  
1958-1969.

088503 13-15

NUTMEG POISONING - A CASE REPORT.

089179 13-15

SPOT TESTS FOR RAPID DIAGNOSIS OF POISONING.

089180 13-15

DIAZEPAM TREATMENT IN A CASE OF STRYCHNINE POISONING.

099085 13-13

STRYCHNINE POISONING TREATED SUCCESSFULLY WITH DIAZEPAM.

100133 13-13

PHYSOSTIGMINE THERAPY IN ACUTE TRICYCLIC ANTIDEPRESSANT  
POISONING.

101864 13-13

MERCURY POISONING.

102140 13-13

EXPLORATORY BEHAVIOR IN CHRONIC DISULFOTON POISONING IN MICE.

104136 13-04

IMIPRAMINE POISONING.

111331 13-15

DETERMINATION OF AMITRIPTYLINE AND METABOLITES IN VARIOUS  
ORGANS AFTER FATAL POISONING.

117457 13-15

## POLYCLINICS

PRESCRIPTIONS OF PSYCHIATRISTS WORKING IN PRAGUE POLYCLINICS.

106099 13-17

## POLYGRAPHIC

CLINICAL INVESTIGATION OF DOXEPIN IN DEPRESSED PATIENTS. PILOT  
OPEN STUDY, CONTROLLED DOUBLE-BLIND TRIAL VERSUS  
IMIPRAMINE, AND ALL-NIGHT POLYGRAPHIC STUDY.

099031 13-10

QUANTITATIVE POLYGRAPHIC EVALUATION OF EMOTIONAL TENSION IN  
THE STUDY OF A NEW BENZODIAZEPINE.

100537 13-07

## POLYMYXIN

RELEASE OF CREATINE PHOSPHOKINASE FROM MUSCLE - 1. EFFECT OF  
POLYMYXIN B, COMPOUND 48/80, AND SEROTONIN.

108719 13-05

## POLYPHARMACY

POLYPHARMACY: DATA AND CONCLUSIONS.

085689 13-08

## POLYRIBOSOME

EFFECTS OF EXCESS PHENYLALANINE ON IN VITRO AND IN VIVO RNA  
AND PROTEIN SYNTHESIS AND POLYRIBOSOME LEVELS IN BRAINS OF  
MICE.

086806 13-03

## POLYVINYLPIRROLIDONE

INJECTIBLE DISPERSION OF DELTA9-TETRAHYDROCANNABINOL IN SALINE  
USING POLYVINYLPIRROLIDONE.

088638 13-06

## POOL

IMPORTANCE OF NORADRENALINE FOUND IN A FUNCTIONAL POOL IN  
MAINTAINING SPONTANEOUS LOCOMOTOR ACTIVITY IN RATS.

077424 13-04

## POPULATION

A COMPARISON BETWEEN CHLORPROMAZINE AND THIOTHIXENE IN A  
VETERANS ADMINISTRATION HOSPITAL POPULATION.

099887 13-08

## POPULATIONS

EVALUATION OF EFFICACY OF PSYCHOTROPIC AGENTS IN  
SCHIZOPHRENIC POPULATIONS: METHODOLOGICAL PROCEDURES.

095536 13-08

## PORTAL

THE INFLUENCE OF SOME SELECTED PSYCHOACTIVE DRUGS ON THE  
SPONTANEOUS CONTRACTILE ACTIVITY OF THE ISOLATED MURINE  
PORTAL VEIN.

104964 13-03

## POSITION

THE POSITION OF BIOLOGICAL PSYCHIATRY AMONG THE PSYCHIATRIC  
DISCIPLINES.

087865 13-17

## POSITIVE

CHOLINERGIC MECHANISM DETERMINES THE OCCURRENCE OF REWARD  
CONTINGENT POSITIVE VARIATION (RCPV) IN CAT.

088543 13-03

A CONTINGENT POSITIVE VARIATION.

121102 13-17

## POSITIVELY

RHE EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF  
CHLORPROMAZINE ON THE ACQUISITION AND EXTINCTION OF  
POSITIVELY REINFORCED OPERANT RESPONSES.

088679 13-04

## POST-MORTEM

POST-MORTEM CHANGES IN TISSUE LEVELS OF SODIUM SECOBARBITAL.

098634 13-03

## POST-NATAL

THE SAFETY TEST OF 10-CHLORO-11B-(2-CHLOROPHENYL) 2,3,5,6,7,11B-  
HEXAHYDROBENZO(6,7) 1,4 DIAZEPINOXAZOLONE (CS-370) - II.  
EFFECT OF CS-370 UPON THE DEVELOPMENT OF PRE-NATAL AND POST-  
NATAL OFFSPRINGS OF EXPERIMENTAL ANIMALS.

116154 13-03

## POST-TRAUMATIC

ON THE EFFECT OF TEBONIN IN POST-TRAUMATIC BRAIN INJURIES.

098562 13-11

## POST-TRIAL

THE EFFECT OF PRE- AND POST-TRIAL AMPHETAMINE INJECTIONS ON  
AVOIDANCE RESPONSES OF RATS.

103944 13-04

EFFECT OF POST-TRIAL INJECTION OF BETA ADRENERGIC BLOCKING  
AGENTS ON A CONDITIONED REFLEX IN RATS.

104577 13-04

EFFECTS OF POST-TRIAL INJECTIONS OF SCOPOLAMINE AND ESERINE ON  
ACQUISITION OF A SIMULTANEOUS BRIGHTNESS DISCRIMINATION.

111052 13-04

## POSTGANGLIONIC

UNEXPLAINED INHIBITORY ACTION OF D-LYSERGIC ACID DIETHYLAMIDE  
(LSD) ON POSTGANGLIONIC MOTOR TRANSMISSION IN THE GUINEA-  
PIG VAS-DEFERENS.

109198 13-03

## POSTOPERATIVE

POSTOPERATIVE MANAGEMENT OF A NARCOTIC ADDICT.

104025 13-17

## POSTSYNAPTIC

EFFECT OF MORPHINE ON THE PRESYNAPTIC AND POSTSYNAPTIC  
INHIBITIONS IN THE SPINAL CORD.

082788 13-03

## POTASSIUM

THE EFFECT OF 5-HYDROXYTRYPTOPHAN AND RESERPINE  
ADMINISTRATION ON THE LEVEL OF SODIUM, POTASSIUM, CALCIUM,  
MAGNESIUM AND CHLORIDE IN FIVE DISCRETE AREAS OF THE RABBIT  
BRAIN.

088665 13-03

SLOW SYNAPTIC EXCITATION: EVIDENCE FOR SYNAPTIC INACTIVATION  
OF POTASSIUM CONDUCTANCE (UNPUBLISHED PAPER).

094923 13-03

SODIUM AND POTASSIUM ACTIVATED ATPASE OF BEEF BRAIN - EFFECTS  
OF SOME TRANQUILIZERS.

101705 13-03

EFFECTS OF CHLORPROMAZINE AND PROPRANOLOL ON LEFT  
VENTRICULAR SYSTOLIC PRESSURE, ECG, AND POTASSIUM ION EFFLUX  
IN THE ISOLATED PERFUSED RAT HEART.

103311 13-03

DIPHENYLHYDANTOIN (DILANTIN): STIMULATION OF POTASSIUM INFLUX  
IN LOBSTER AXONS.

117581 13-03

EFFECT OF DRUGS USED IN STATUS-EPILEPTICUS ON THE POTASSIUM  
FLUXES OF CEREBROSPINAL FLUID IN THE CONSCIOUS DOG.

120412 13-03

## POTENCY

THE EFFECT OF SOLVENTS ON THE POTENCY OF CHLORDIAZEPOXIDE,  
DIAZEPAM, MEDAZEPAM AND NITRAZEPAM.

077908 13-02

COMPARISON OF PYRAZOLE AND 4-BROMOPYRAZOLE AS INHIBITORS OF  
ALCOHOL DEHYDROGENASES: THEIR POTENCY, TOXICITY AND  
DURATION OF ACTION IN MICE.

094253 13-05

NC-123 IN THE TREATMENT OF DISTURBANCES OF SEXUAL POTENCY.

105922 13-14

RELATIVE POTENCY OF AMPHETAMINE DERIVATIVES AND N, N-  
DEMETHYLTRYPTAMINES.

125250 13-04

## POTENT

PHARMACOLOGICAL STUDIES ON NEW POTENT CENTRAL DEPRESSANTS,  
8-CHLORO-6-PHENYL-4H-S-TRIAZOLOBENZODIAZEPINE (D-40TA) AND  
ITS 1 METHYL ANALOGUE (D-65MT).

105392 13-02

A QUANTITATIVE STUDY OF NEUROLEPTIC INDUCED EXTRAPYRAMIDAL  
SYMPTOMS AND THEIR RESPONSE TO DEXETIMIDE, A POTENT AND  
LONG-ACTING ANTIPARKINSONIAN AGENT.

115396 13-13

## POTENTIAL

CL-67772: A PRELIMINARY EVALUATION OF A POTENTIAL  
ANTIDEPRESSANT COMPOUND: ANIMAL AND HUMAN CORRELATIONS.

086893 13-11

PSYCHOPHARMACOLOGICAL PROFILE OF A POTENTIAL ANTIDEPRESSANT  
PERTAINING TO THE PYRIDOBENZODIAZEPINE SERIES.

091558 13-02

A POTENTIAL CLINICAL USE FOR METHYLPHENIDATE WITH TRICYCLIC  
ANTIDEPRESSANTS.

092932 13-09

PROGRESS REPORT ON THE ASSESSMENT OF THE ANTAGONISTS  
NALBUPHINE AND GPA-2087 FOR ABUSE POTENTIAL AND STUDIES OF

## Subject Index

- THE EFFECTS OF DEXTROMETHORPHAN IN MAN (UNPUBLISHED PAPER). 094938 13-13
- EEG, EVOKED POTENTIAL, AND CONTINGENT NEGATIVE VARIATIONS WITH LITHIUM IN MANIC DEPRESSIVE DISEASE. 097458 13-09
- MODERN DRUG TREATMENT AND POTENTIAL HAZARDS TO HEALTH. 103047 13-17
- EXPLORATION OF THE ANTIDEPRESSANT POTENTIAL OF L-DOPA. 104142 13-04
- SOMATOSENSORY EVOKED POTENTIAL CHANGES DURING THIOTHIXENE TREATMENT IN SCHIZOPHRENIC PATIENTS. 105008 13-08
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN. II. INFLUENCE ON BEHAVIOR IN RATS. 105838 13-04
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN. I. THE ACTION ON THE CENTRAL NERVOUS SYSTEM IN RODENT. 105839 13-02
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN. III. ELECTROENCEPHALOGRAPHIC STUDY IN RABBITS. 105840 13-03
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN. IV. ANTIANDRENERGIC ACTION AND INFLUENCE ON BRAIN MONOAMINES. 105841 13-03
- EVOKED POTENTIAL AND SINGLE UNIT STUDIES OF NEURAL MECHANISMS UNDERLYING THE EFFECTS OF REPETITIVE STIMULATION IN THE AUDITORY PATHWAY. 108671 13-03
- EFFECT OF NEMBUTAL ON THE INHIBITORY WAVE OF ANTIDROMICALLY INDUCED POTENTIAL IN THE MOTOR CORTEX OF THE CAT. 111136 13-03
- SOMATOSENSORY EVOKED POTENTIAL CHANGES DURING THIOTHIXENE TREATMENT IN SCHIZOPHRENIC PATIENTS. 125568 13-08
- EFFECTS ON THE AMYGDALO-HIPPOCAMPAL EVOKED POTENTIAL IN THE CAT OF FOUR BENZODIAZEPINES AND SOME OTHER PSYCHOTROPIC DRUGS. 125960 13-03
- POTENTIALS**
- THE INFLUENCE OF HYPNOTICS AND TRANQUILLIZERS ON SOME EVOKED CORTICAL POTENTIALS. 082760 13-03
- CHANGES IN SOMATOSENSORY EVOKED POTENTIALS DURING FLUPHENAZINE TREATMENT. 087001 13-13
- MEASUREMENT OF PHASIC INTEGRATED POTENTIALS (PIP) DURING TREATMENT WITH PARA-CHLOROPHENYLALANINE (PCPA) (UNPUBLISHED PAPER). 093258 13-14
- THE EFFECTS OF MORPHINE, PENTOBARBITAL AND CHLORPROMAZINE ON BIOELECTRICAL POTENTIALS EVOKED IN THE BRAIN STEM OF THE CAT BY ELECTRICAL STIMULATION OF THE GINGIVA AND TOOTH PULP. 094254 13-05
- EFFECT OF NEUROTROPIC DRUGS ON CORTICAL EVOKED POTENTIALS. 113480 13-03
- EFFECT OF TRIPHENASINE ON CONDITIONED REFLEX PROCESSES ACCORDING TO PARAMETERS OF EVOKED POTENTIALS. 113749 13-04
- POTENTIATION**
- EFFECT OF AMMONIUM CHLORIDE ON THE POTENTIATION OF AMPHETAMINE BY PSYCHOTROPIC DRUGS IN THE RAT. 082793 13-03
- POTENTIATION OF EFFECTS OF L-DOPA ON CONDITIONED AVOIDANCE BEHAVIOR BY INHIBITION OF EXTRACEREBRAL DOPA-DECARBOXYLASE. 088685 13-03
- POTENTIATION IN RATS OF BUFOFENIN INDUCED BEHAVIORAL CHANGES BY CHLORPROMAZINE. 101570 13-04
- PYRAZOLE AND ETHANOL POTENTIATION OF TRYPTOPHOL INDUCED SLEEP IN MICE. 103647 13-04
- POTENTIATION OF AMPHETAMINE INDUCED AROUSAL BY STARVATION. 114515 13-04
- POTENTIATION OF THE CARDIOVASCULAR EFFECTS OF SOME CATECHOLAMINES BY A MONOAMINE OXIDASE INHIBITOR. 120417 13-13
- POTENTIATION OF BARBITAL NARCOSIS IN MICE BY CHOLINERGIC AND CHOLINESTERASE BLOCKERS. 122047 13-03
- THE INFLUENCE OF ANTIPARKINSON AGENTS UPON SUBNARCOTIC AND CHOLINERGIC POTENTIATION OF BARBITAL IN MICE. 122048 13-03

## Psychopharmacology Abstracts

- POTENTIATION BY COCAINE OF RESPONSES OF THE GUINEA-PIG ISOLATED TRACHEAL CHAIN TO ETHYLNORADRENALINE AND ALPHA-METHYLNORADRENALINE. 122550 13-03
- POTENTIATION OF HALOPERIDOL BY TYROSINE HYDROXYLASE INHIBITION. 123269 13-03
- POWER**
- EEG CHANGES AFTER FLUPHENAZINE EXANTHATE AND DECANOATE BASED ON ANALOG POWER SPECTRA AND DIGITAL COMPUTER PERIOD ANALYSIS. 105009 13-13
- PRAGUE**
- NEURO AND PSYCHOTROPIC DRUGS IN PRESCRIPTIONS OF PHYSICIANS IN THE DISTRICT PRAGUE 6. 106098 13-17
- PRESCRIPTIONS OF PSYCHIATRISTS WORKING IN PRAGUE POLICLINICS. 106099 13-17
- PRAZEPAM**
- COMPARISON OF PRAZEPAM AND PLACEBO IN THE TREATMENT OF CONVALESCING NARCOTIC ADDICTS. 100259 13-14
- PRE-NATAL**
- THE SAFETY TEST OF 10-CHLORO-11B-(2-CHLOROPHENYL) 2,3,5,6,7,11B-HEXAHYDROBENZO(6,7) 1,4 DIAZEPINOXAZOLONE (CS-370) - II. EFFECT OF CS-370 UPON THE DEVELOPMENT OF PRE-NATAL AND POST-NATAL OFFSPRINGS OF EXPERIMENTAL ANIMALS. 116154 13-03
- PRECLINICAL**
- PRECLINICAL STUDIES IN ANIMALS. 097914 13-04
- PRECURSORS**
- MONOAMINE PRECURSORS IN THE TREATMENT OF DEPRESSION. 100439 13-07
- THE EFFECT OF RNA PRECURSORS ON THE MAINTENANCE OF LONG-TERM MEMORY. 103946 13-04
- EFFECT OF P-NITROMETHYLAMPHETAMINE ON BIOGENIC AMINES AND THEIR AMINO ACID PRECURSORS IN RAT BRAIN. 108794 13-03
- PREDICTABILITY**
- LITHIUM CARBONATE TREATMENT IN THE MANIC-DEPRESSIVE AND PREDICTABILITY OF OUTCOME OF TREATMENT. 086166 13-15
- PREDICTING**
- PREDICTING THE RESPONSE OF CHILDREN WITH LEARNING DISABILITIES AND BEHAVIOR PROBLEMS TO DEXTROAMPHETAMINE SULFATE. 077911 13-11
- PREDICTION**
- PREDICTION OF DRUG EFFECT IN PERSONALITY DISORDERS. 088295 13-17
- PREDICTIONS**
- LABORATORY PREDICTIONS OF INFANTILE AUTISM BASED ON 5-HYDROXYTRYPTAMINE EFFLUX FROM BLOOD PLATELETS AND THEIR CORRELATION WITH THE RIMLAND E-2 SCORE. 082634 13-13
- PREDICTOR**
- THE HOSPITALIZATION PRONENESS SCALE AS A PREDICTOR OF RESPONSE TO PHENOTHIAZINE TREATMENT. 092770 13-08
- PREDICTORS**
- PREDICTORS OF CHLORDIAZEPOXIDE RESPONSE IN ANXIETY. 079432 13-10
- PREGNANCY**
- DELUSION OF PREGNANCY IN A GIRL WITH DRUG-INDUCED LACTATION. 085705 13-15
- LITHIUM IN PREGNANCY: A REVIEW WITH RECOMMENDATIONS. 086356 13-09
- LSD IN PREGNANCY: CHROMOSOMAL EFFECTS. 099614 13-05
- PREGNANT**
- MANAGING THE PREGNANT ADDICT AND HER BABY. 078152 13-15
- PREMATURE**
- PREMATURE EJACULATION AND ITS TREATMENT. 123352 13-14
- TREATMENT OF HYPERBILIRUBINEMIA IN PREMATURE AND NEWBORN INFANTS WITH PHENOBARBITAL AND LIGHT THERAPY. 125867 13-13
- PREMEDICATION**
- MENTAL STATES FOLLOWING PREMEDICATION WITH NEUROLEPTICS AND ANALGESICS. 125772 13-14
- PREMENSTRUAL**
- PHARMACOTHERAPY IN THE PREMENSTRUAL TENSION. 105908 13-14

- PREPARING**  
A SIMPLE RAPID METHOD FOR PREPARING PARALLEL MICROPIPETTE ELECTRODES. 112202 13-16
- PREPUTIAL**  
THE PREPUTIAL GLANDS AS A SOURCE OF AGGRESSION PROMOTING ODORS IN MICE. 088571 13-04
- PRESCHOOL**  
STUDY OF MOLINDONE IN DISTURBED PRESCHOOL CHILDREN. 074814 13-08  
IMIPRAMINE IN PRESCHOOL AUTISTIC AND SCHIZOPHRENIC CHILDREN. 101536 13-11
- PRESCRIBING**  
A SURVEY OF PRESCRIBING PATTERNS IN COMMON PSYCHIATRIC CONDITIONS. 086525 13-17  
PRESCRIBING PRACTICE IN A PSYCHIATRIC UNIT. 099906 13-15
- PRESCRIPTIONS**  
NEURO AND PSYCHOTROPIC DRUGS IN PRESCRIPTIONS OF PHYSICIANS IN THE DISTRICT PRAGUE 6. 106098 13-17  
PRESCRIPTIONS OF PSYCHIATRISTS WORKING IN PRAGUE POLICLINICS. 106099 13-17
- PRESERVATION**  
THE IDENTIFICATION, ISOLATION, AND PRESERVATION OF DELTA9-TETRAHYDROCANNABINOL (DELTA9-THC). 088583 13-01
- PRESSURE**  
BLOOD PRESSURE/PULSE RESPONSES TO INTRAVENOUS METHACHOLINE IN PSYCHIATRIC ILLNESS. 102836 13-13  
EFFECTS OF CHLORPROMAZINE AND PROPRANOLOL ON LEFT VENTRICULAR SYSTOLIC PRESSURE, ECG, AND POTASSIUM ION EFFLUX IN THE ISOLATED PERFUSED RAT HEART. 103311 13-03  
THE CENTRALLY INDUCED FALL IN BLOOD PRESSURE AFTER THE INFUSION OF AMPHETAMINE AND RELATED DRUGS INTO THE VERTEBRAL ARTERY OF THE CAT. 106911 13-03  
EFFECT OF REDUCED BAROMETRIC PRESSURE ON DRUG ACTION AND METABOLISM IN MICE. 118568 13-03  
CENTRAL EFFECTS OF SYMPATHOMIMETIC AMINES ON THE BLOOD PRESSURE. 120718 13-03  
THE EFFECT OF PHENYL-ALKYL HYDRAZINES ON CAT BLOOD PRESSURE. 122046 13-03  
A COMPARISON OF FG-5310, A NEW SELECTIVE MONOAMINE OXIDASE INHIBITOR, AND OTHER MAO INHIBITORS ON THE BLOOD PRESSURE RESPONSE TO TYRAMINE. 123287 13-03
- PRESYNAPTIC**  
EFFECT OF MORPHINE ON THE PRESYNAPTIC AND POSTSYNAPTIC INHIBITIONS IN THE SPINAL CORD. 082788 13-03  
DIAZEPAM AND PRESYNAPTIC INHIBITION. 107121 13-03
- PRETREATED**  
ROLE OF BRAIN MONOAMINES IN THE FATAL HYPERTHERMIA INDUCED BY PETHIDINE OR IMIPRAMINE IN RABBITS PRETREATED WITH PARGYLINE. 109197 13-03  
BEHAVIOURAL AND BIOCHEMICAL EFFECTS OF L-DOPA AFTER INHIBITION OF DOPAMINE-BETA-HYDROXYLASE IN RESERPINE PRETREATED RATS. 119552 13-03
- PRETREATMENT**  
CHANGES IN THE RETENTION AND METABOLISM OF 3H-1-NOREPINEPHRINE IN RAT BRAIN IN VIVO AFTER 6-HYDROXYDOPAMINE PRETREATMENT. 082721 13-03  
ALTERATION OF BEHAVIOURAL CHANGES INDUCED BY 3,4,5-TRIMETHOXYPHENYLETHYLAMINE (MESCALINE) BY PRETREATMENT WITH 2,4,5-TRIMETHOXYPHENYLETHYLAMINE: A SELF-EXPERIMENT. 102193 13-12  
DECREASED CALCIUM UPTAKE BY RAT FUNDAL STRIPS AFTER PRETREATMENT WITH NEURAMINIDASE OR LSD IN VITRO. 105710 13-03  
THE EFFECTS OF NALOXONE, CHLORPROMAZINE, AND HALOPERIDOL PRETREATMENT ON LEVALLORPHAN INDUCED DISRUPTION OF RATS OPERANT BEHAVIOR. 111145 13-04
- PREVENTING**  
THE INEFFECTIVENESS OF DIPHENYLHYDANTOIN IN PREVENTING FEBRILE CONVULSIONS IN THE AGE OF GREATEST RISK, UNDER THREE YEARS. 100844 13-11
- PREVENTION**  
USE OF LITHIUM SALTS IN TREATMENT AND PREVENTION OF AFFECTIVE PSYCHOSES. 113750 13-09  
THE CONTRIBUTION OF FLUPHENAZINE ENANTHATE AND DECANOATE IN THE PREVENTION OF READMISSION OF SCHIZOPHRENIC PATIENTS. 115399 13-08
- PRIESTS**  
AND THE PRISONERS WILL BECOME PRIESTS: THE CONVICTS BREAK OUT. 073413 13-12
- PRIMARY**  
PRIMARY LEVELS OF UNDERREPORTING PSYCHOTROPIC DRUG USE. 078803 13-17
- PRIMATE**  
CHANGES IN PRIMATE SOCIAL BEHAVIOR AFTER TREATMENT WITH ALPHA-METHYL-P-TYROSINE. 085419 13-04  
A QUANTITATIVE ELECTROENCEPHALOGRAPHIC COMPARISON OF SOME BENZODIAZEPINES IN THE PRIMATE. 100212 13-03
- PRINTS**  
EFFECT OF THIOTHIXENE ON DIGITAL COMPUTER SLEEP PRINTS OF SCHIZOPHRENIC PATIENTS. 108569 13-14  
EFFECTS OF FLUPHENAZINE HYDROCHLORIDE ON DIGITAL COMPUTER SLEEP PRINTS OF SCHIZOPHRENIC PATIENTS. 108701 13-08
- PRISON**  
PROBLEMS IN THE EVALUATION OF A NEW ANTIDEPRESSANT DRUG IN PRISON VOLUNTEERS. 070714 13-13
- PRISONERS**  
AND THE PRISONERS WILL BECOME PRIESTS: THE CONVICTS BREAK OUT. 073413 13-12
- PRIVATE**  
ANXIOUS DEPRESSED ADULTS AND PROBLEM CHILDREN TREATED WITH THIORIDAZINE IN PRIVATE PRACTICE. 078943 13-10  
A WORKING MODEL OF CLINICAL RESEARCH IN PRIVATE PRACTICE. 121476 13-11
- PROACTIVE**  
PROACTIVE AND RETROACTIVE EFFECTS OF DIETHYL ETHER ON SPATIAL DISCRIMINATION LEARNING IN INBRED MOUSE STRAINS DBA/2J AND C57BL/6J. 079532 13-14  
TWENTY-FOUR-HOUR PROACTIVE FACILITATION OF AVOIDANCE AND DISCRIMINATION LEARNING IN RATS BY D-AMPHETAMINE. 106786 13-04
- PROBLEM**  
ANXIOUS DEPRESSED ADULTS AND PROBLEM CHILDREN TREATED WITH THIORIDAZINE IN PRIVATE PRACTICE. 078943 13-10  
PSYCHOPHARMACOLOGY IN CHILDREN: PROBLEM AREAS, METHODOLOGICAL CONSIDERATIONS, AND ASSESSMENT TECHNIQUES. 095541 13-11  
MEASUREMENT OF PHARMACOLOGICAL DEPRESSION OF EXPLORATORY ACTIVITY IN MICE: A CONTRIBUTION TO THE PROBLEM OF TIME ECONOMY AND SENSITIVITY. 104704 13-06  
TREATMENT OF EPILEPSY AS A PSYCHIATRIC PROBLEM. 123889 13-11
- PROBLEMATIC**  
ON THE THERAPY AND PROBLEMATIC NATURE OF PARKINSON SYNDROME. 105491 13-15
- PROBLEMS**  
PROBLEMS IN THE EVALUATION OF A NEW ANTIDEPRESSANT DRUG IN PRISON VOLUNTEERS. 070714 13-13  
PREDICTING THE RESPONSE OF CHILDREN WITH LEARNING DISABILITIES AND BEHAVIOR PROBLEMS TO DEXTROAMPHETAMINE SULFATE. 077911 13-11  
BEHAVIOR PROBLEMS IN NURSING HOME PATIENTS: TREATMENT WITH THIORIDAZINE. 086894 13-14  
ANOREXIA-NERVOSA, ITS PSYCHIATRIC, INTERNAL AND SURGICAL PROBLEMS. 087042 13-10  
PROBLEMS RAISED IN THE TREATMENT OF NEUROLOGICAL AND NEUROPSYCHIATRIC MANIFESTATIONS IN SYSTEMIC LUPUS-ERYTHEMATOSUS. 089134 13-15  
PROBLEMS OF A DRUG TRIAL (PEMOLINE) ON GERIATRIC PATIENTS. 093774 13-11  
PRINCIPLES AND PROBLEMS IN ESTABLISHING THE EFFICACY OF PSYCHOTROPIC AGENTS. 095532 13-17

# Subject Index

# Psychopharmacology Abstracts

- HUMAN PROBLEMS AND CHEMICAL SOLUTIONS.** 106159 13-17  
ACTION AND ROLE OF SULPIRID IN THE TREATMENT OF ABDOMINAL PAIN SYNDROMES ASSOCIATED WITH PSYCHIATRIC PROBLEMS. 121849 13-17
- PROCAINE**  
CONDITIONED DRINKING PRODUCED BY PROCAINE, NaCl, AND ANGIOTENSIN. 102540 13-04
- PROCEDURE**  
A SIMPLE PROCEDURE FOR CALCULATING THE SYNTHESIS RATE OF NOREPINEPHRINE, DOPAMINE AND SEROTONIN IN RAT BRAIN. 082879 13-06  
A RAPID, SIMPLIFIED PROCEDURE FOR SIMULTANEOUS ASSAY OF NOREPINEPHRINE, DOPAMINE, AND 5-HYDROXYTRYPTAMINE FROM DISCRETE BRAIN AREAS. 117510 13-06  
A SIMPLE AND RELIABLE CONFLICT PROCEDURE FOR TESTING ANTIANXIETY AGENTS. 124108 13-04
- PROCEDURES**  
EVALUATION OF EFFICACY OF PSYCHOTROPIC AGENTS IN SCHIZOPHRENIC POPULATIONS: METHODOLOGICAL PROCEDURES. 095536 13-08
- PROCHLORPERMAZINE**  
STATISTICAL AMPLITUDE ANALYSIS OF THE INTEGRATED ELECTROCORTICOGRAM OF UNRESTRAINED RATS BEFORE AND AFTER PROCHLORPERMAZINE. 082863 13-03
- PROCHLORPERAZINE**  
COMPARISON OF PROCHLORPERAZINE, PERPHENAZINE, AND OCTOCLOTHEPIN IN ERETHISMIC OLIGOPHRENIA. 105834 13-14
- PRODUCING**  
THE VIOLET PIGMENT OF LYSERGIC ACID ALKALOID PRODUCING CULTURES OF CLAVICEPS-PASPALI: FERRIC COMPLEX OF 2,3 DIHYDROXYBENZOIC ACID. 100171 13-01  
STUDIES OF THE DEPENDENCE PRODUCING PROPERTIES OF GPA-1657, PROFADOL, AND PROPRIAM IN MAN. 104363 13-14
- PRODUCTION**  
PRODUCTION OF LOCAL ANAPHYLACTIC REACTIONS AS AN ATTEMPT TO TREAT DEPRESSIVE PSYCHOSES. 087035 13-07  
EFFECT OF ANESTHETIC DRUGS ON TIME PRODUCTION AND ALPHA RHYTHM. 111839 13-14
- PROESTRUS**  
EFFECT OF RESERPINE ON PLASMA LH LEVELS IN OVARECTOMIZED AND CYCLING PROESTRUS RATS. 125330 13-03
- PROFADOL**  
STUDIES OF THE DEPENDENCE PRODUCING PROPERTIES OF GPA-1657, PROFADOL, AND PROPRIAM IN MAN. 104363 13-14  
ANALGESIC ACTIVITY OF ORAL AND INTRAMUSCULAR PROFADOL. 104366 13-11
- PROFILE**  
PSYCHOPHARMACOLOGICAL PROFILE OF A POTENTIAL ANTIDEPRESSANT PERTAINING TO THE PYRIDOBENZODIAZEPINE SERIES. 091558 13-02
- PROFILES**  
PSYCHOSOCIAL PROFILES AND EFFICACY OF LITHIUM TREATMENT. 092453 13-09  
EEG PROFILES OF FENFLURAMINE, AMOBARBITAL AND DEXTROAMPHETAMINE IN NORMAL VOLUNTEERS. 107630 13-16
- PROGESTERONE**  
PROGESTERONE ESTROGEN INTERACTIONS IN THE CONTROL OF ACTIVITY WHEEL RUNNING IN THE FEMALE RAT. 086683 13-14  
REPLACEMENT OF PROGESTERONE WITH A PHENOTHIAZINE IN THE INDUCTION OF MATERNAL BEHAVIOR IN THE OVARECTOMIZED, NULLIPAROUS RAT. 095383 13-04  
EFFECTS OF ESTROGEN AND PROGESTERONE ON SLEEP PATTERNS OF FEMALE RATS. 095385 13-04  
THE ACUTE EFFECTS OF ESTROGEN AND PROGESTERONE ON THE MONOAMINE LEVELS OF THE BRAIN OF OVARECTOMIZED RATS. 104790 13-03
- PROGESTIN**  
PLASMA MONOAMINE OXIDASE ACTIVITY IN REGULARLY MENSTRUATING WOMEN AND IN AMENORRHEIC WOMEN RECEIVING CYCLIC TREATMENT WITH ESTROGENS AND A PROGESTIN. 104616 13-13
- PROGNOSIS**  
MANAGEMENT AND PROGNOSIS OF 50-CALLED ANOREXIA-NERVOSA. 122939 13-10
- PROGRAM**  
APPROACHES TO MEASURING THE EFFICACY OF DRUG TREATMENT OF PERSONALITY DISORDERS: AN ANALYSIS AND PROGRAM. 095542 13-10  
INTERACTION OF PERSONALITY AND TREATMENT CONDITIONS ASSOCIATED WITH SUCCESS IN A SMOKING CONTROL PROGRAM. 108268 13-17  
THE NIMH BIOMEDICAL PROGRAM OF MARIJUANA RESEARCH. (UNPUBLISHED PAPER). 126570 13-17
- PROGRESS**  
NEUROPHARMACOLOGY AND EXPERIMENTAL PSYCHIATRY: THE EVOLUTION OF A PROJECT - A PROGRESS REPORT. 077427 13-17  
PROGRESS REPORT ON THE ASSESSMENT OF THE ANTAGONISTS NALBUPHINE AND GPA-2087 FOR ABUSE POTENTIAL AND STUDIES OF THE EFFECTS OF DEXTROMETHORPHAN IN MAN (UNPUBLISHED PAPER). 094938 13-13  
PROGRESS IN DRUG RESEARCH. 111877 13-17
- PROGRESSIVE**  
POSSIBLE ETIOLOGY OF SCHIZOPHRENIA: PROGRESSIVE DAMAGE TO THE NORADRENERGIC REWARD SYSTEM BY 6-HYDROXYDOPAMINE. 088491 13-04
- PROJECTION**  
CHANGES IN THE REACTIVITY OF NEURONS OF THE PROJECTION CORTEX UNDER THE EFFECT OF NEMBUTAL. 111816 13-03
- PROLACTIN**  
LSD INDUCED DECREASE IN SERUM PROLACTIN IN RATS. 100220 13-03  
CHLORPROMAZINE STIMULATION AND L-DOPA SUPPRESSION OF PLASMA PROLACTIN IN MAN. 109042 13-13
- PROLIXIN**  
PROLIXIN ENANTHATE AND THORAZINE STELAZINE REGIMENS IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS. AN EXPERIMENTAL EVALUATION. 096017 13-08
- PROLONGED**  
LONG-TERM EVOLUTION OF THE SIDE-EFFECT LENS OPACITIES INDUCED BY CHLORPROMAZINE PROLONGED THERAPY. 089189 13-15  
EXTRAPYRAMIDAL DISORDERS AFTER PROLONGED PHENOTHIAZINE THERAPY. 099120 13-15  
INTRAVENOUS DIAZEPAM IN THE TREATMENT OF PROLONGED SEIZURE ACTIVITY IN NEONATES AND INFANTS. 101560 13-11  
PROLONGED TREATMENT WITH MORPHINE IN RATS: DRUG/BEHAVIOR INTERACTION UNDER AVERSIVE CONTROL. 103954 13-04  
PSYCHOTROPIC DRUGS OF PROLONGED EFFECT IN REHABILITATION AND READAPTATION OF SCHIZOPHRENIC PATIENTS. 111738 13-08  
WITHDRAWAL SYMPTOMS FOLLOWING CESSATION OF PROLONGED NEUROLEPTIC THERAPY. 118127 13-08  
PROLONGED EFFECTS OF RESERPINE ADMINISTRATION ON ADRENOCEPTOR ACTIVITY IN DOGS. 122548 13-03  
THE INFLUENCE OF PROLONGED AMPHETAMINE TREATMENT AND AMPHETAMINE WITHDRAWAL ON BRAIN BIOGENIC AMINE CONTENT AND BEHAVIOUR IN THE RAT. 125163 13-03
- PROMAZINE**  
EFFICACY OF INTRAVENOUSLY USED PROMAZINE IN ACUTE PSYCHOMOTOR AGITATION. 089307 13-11
- PROMETHAZINE**  
EVALUATION OF THE HYPNOTIC PROPERTIES OF PROMETHAZINE ON CHRONIC SCHIZOPHRENICS. 077430 13-08  
DETERMINATION OF THE COMPONENTS OF A COMBINED PREPARATION OF GLUTETHIMIDE, AMOBARBITAL AND PROMETHAZINE IN AUTOPSY MATERIAL FROM SEVERAL SUICIDES. 089151 13-15
- PROMOTING**  
THE PREPUTIAL GLANDS AS A SOURCE OF AGGRESSION PROMOTING ODORS IN MICE. 088571 13-04

**PRONENESS**

- THE HOSPITALIZATION PRONENESS SCALE AS A PREDICTOR OF  
RESPONSE TO PHENOTHIAZINE TREATMENT. 092770 13-08

**PROPANEDIOL**

- THE PHARMACOLOGY OF PROPANEDIOL CARBAMATES. 108521 13-13

**PROPERICIAZINE**

- A CLINICAL STUDY WITH PROPERICIAZINE IN CHRONIC PSYCHOTIC  
PATIENTS. 086895 13-11

**PROPHYLACTIC**

- PROPHYLACTIC LITHIUM THERAPY: SOME CLINICAL APPLICATIONS.  
077867 13-09

- PROPHYLACTIC DISPENSATION OF LITHIUM CARBONATE IN AFFECTIVE  
PSYCHOSES. 087191 13-11

- THE INFLUENCE OF PROPHYLACTIC LITHIUM TREATMENT ON THE  
MARITAL ADJUSTMENT OF MANIC-DEPRESSIVES AND THEIR SPOUSES.  
100314 13-09

- PROPHYLACTIC ADMINISTRATION OF LITHIUM CARBONATE IN AFFECTIVE  
PSYCHOSES. 101311 13-09

- PROPHYLACTIC EFFECTS OF LITHIUM SALTS IN PERIODIC AFFECTIVE  
PSYCHOSES. 101967 13-09

- PROPHYLACTIC EFFECT OF LITHIUM SALTS IN PERIODIC AFFECTIVE  
PSYCHOSIS. 102602 13-09

- MODIFICATION OF DEPRESSIVE EPISODES DURING PROPHYLACTIC  
ADMINISTRATION OF LITHIUM SALTS. 105831 13-09

- CLINICAL EXPERIENCE WITH PROPHYLACTIC LITHIUM THERAPY OF  
MANIC-DEPRESSIVE PSYCHOSES. 105928 13-09

- PROPHYLACTIC LITHIUM IN AFFECTIVE DISORDERS. 109105 13-09

- PROPHYLACTIC EFFECT OF LITHIUM SALT IN AFFECTIVE PSYCHOSES.  
118208 13-09

**PROPHYLAXIS**

- LITHIUM PROPHYLAXIS IN MANIC-DEPRESSIVE PSYCHOSES.  
088690 13-09

- EXPERIENCE WITH LITHIUM PROPHYLAXIS OF RECURRENT EMOTIONAL  
DISORDERS IN A PSYCHIATRIC OUTPATIENTS CLINIC. 089129 13-17

- PHENOBARBITAL AS PROPHYLAXIS FOR FEBRILE CONVULSIONS: A  
PRELIMINARY REPORT. 100845 13-11

- PATIENT REJECTION OF LITHIUM CARBONATE PROPHYLAXIS.  
102105 13-09

- LITHIUM PROPHYLAXIS IN MANIC-DEPRESSIVE PSYCHOSIS AND IN  
RECURRENT ENDOGENOUS DEPRESSIONS. 103320 13-09

- BC-105 AND METHYSERGIDE (DESERIL) IN MIGRAINE PROPHYLAXIS.  
117683 13-07

- LITHIUM PROPHYLAXIS OF CYCLOTHYMIC PSYCHOSES.  
125991 13-09

**PROPIONATE**

- NEONATAL ADMINISTRATION OF ANDROSTENEDIONE, TESTOSTERONE OR  
TESTOSTERONE PROPIONATE: EFFECTS ON OVULATION, SEXUAL  
RECEPTIVITY AND AGGRESSIVE BEHAVIOR IN FEMALE MICE.  
088581 13-04

**PROPIRAM**

- STUDIES OF THE DEPENDENCE PRODUCING PROPERTIES OF GPA-1657,  
PROFADOL, AND PROPIRAM IN MAN. 104363 13-14

**PROPOSAL**

- A PROPOSAL FOR A CONSISTENT NIGHT THERAPY FOR THE MENTAL  
PATIENT; CONJOINTLY, A CAUSISTIC CONTRIBUTION TO A DAY NIGHT  
THERAPY FOR DEPRESSIONS WITH PSYCHOTROPIC DRUGS.  
089067 13-09

**PROPOSITI**

- GENETIC CONTROL OF NORTRIPTYLINE KINETICS IN MAN - A STUDY OF  
RELATIVES OF PROPOSITI WITH HIGH PLASMA CONCENTRATION.  
122578 13-13

**PROPOXYPHENE**

- RAPID METHOD FOR SIMULTANEOUS QUALITATIVE ASSAY OF  
NARCOTICS, COCAINE, QUININE AND PROPOXYPHENE IN THE URINE.  
100168 13-16

**PROPRANOLOL**

- PROPRANOLOL INTERFERES WITH INHIBITORY BEHAVIOUR IN RATS.  
086156 13-04

- TRANQUILIZING EFFECTS OF PROPRANOLOL DEMONSTRATED IN RATS.  
100215 13-04

- PROPRANOLOL FOR LSD INDUCED ANXIETY STATES. 101667 13-14

- METABOLISM OF PROPRANOLOL BY RAT LIVER MICROSOMES AND ITS  
INHIBITION BY PHENOTHIAZINE AND TRICYCLIC ANTIDEPRESSANT  
DRUGS. 101703 13-03

- EFFECTS OF CHLORPROMAZINE AND PROPRANOLOL ON LEFT  
VENTRICULAR SYSTOLIC PRESSURE, ECG, AND POTASSIUM ION EFFLUX  
IN THE ISOLATED PERFUSED RAT HEART. 103311 13-03

- THE PSYCHOLOGICAL EFFECTS OF PROPRANOLOL IN THE ABSTINENCE  
PHASE OF CHRONIC ALCOHOLICS. 107596 13-11

- DEBRISOQUINE, GUANETHIDINE, PROPRANOLOL AND HUMAN SLEEP.  
110189 13-14

- PHYSICAL PERFORMANCE OF MICE TREATED WITH PROPRANOLOL,  
SOTALOL AND INPEA. 120818 13-04

- ANTAGONISM BY PROPRANOLOL OF THE INHIBITORY EFFECT OF  
PHENOXYBENZAMINE ON NORADRENALINE UPTAKE IN VIVO. 122553 13-03

- ACUTE ORGANIC BRAIN SYNDROME WITH PROPRANOLOL. 125503 13-15

- PROSTAGLANDIN

- THE EFFECT OF PROSTAGLANDIN E2 ON CONDITIONED AVOIDANCE  
RESPONSE PERFORMANCE IN RATS. 098159 13-04

- STUDIES ON THE FUNCTIONAL ROLE OF ADENOSINE 3,5  
MONOPHOSPHATE, HISTAMINE, AND PROSTAGLANDIN E1 IN THE  
CENTRAL NERVOUS SYSTEM. 120949 13-14

- PROSTAGLANDIN-F-2-ALPHA

- PHARMACOLOGICAL COMPARISON OF PROSTAGLANDIN-F-2-ALPHA,  
SEROTONIN AND NOREPINEPHRINE ON CEREBROVASCULAR TONE OF  
MONKEY. 099653 13-03

- PROTECTION

- PROTECTION AGAINST LSD BY VARIOUS STEROIDS. 101542 13-03

- PHARMACOLOGICAL PROTECTION AGAINST HYPOXIA INDUCED AMNESIA  
IN RATS. 104145 13-04

- ELEVATION OF BRAIN GABA BY PARGYLINE: A POSSIBLE MECHANISM  
FOR PROTECTION AGAINST OXYGEN TOXICITY. 106920 13-03

- PROTEIN

- EFFECTS OF EXCESS PHENYLALANINE ON IN VITRO AND IN VIVO RNA  
AND PROTEIN SYNTHESIS AND POLYRIBOSOME LEVELS IN BRAINS OF  
MICE. 086806 13-03

- PROTEIN METABOLISM AND AMINO ACID ACCUMULATION IN THE RAT  
SUBMAXILLARY GLAND DURING REDUCED SYMPATHETIC ACTIVITY.  
087123 13-03

- EFFECTS OF ACUTE AND CHRONIC ETHANOL ADMINISTRATION ON  
RIBOSOMAL PROTEIN SYNTHESIS IN MOUSE BRAIN AND LIVER.  
088558 13-03

- INFLUENCE OF PH ON AGGREGATION AND PROTEIN BINDING OF  
BARBITURIC ACID AND AMYLOBARBITONE. 089049 13-03

- FUNCTIONING OF IDENTIFIED NEURONS AND SYNAPSES IN ABDOMINAL  
GANGLION OF APLYSIA IN ABSENCE OF PROTEIN SYNTHESIS.  
102512 13-03

- EFFECT OF 6-HYDROXYDOPAMINE ON THE INCORPORATION OF 14C-  
LEUCINE INTO RAT BRAIN PROTEIN. 108615 13-03

- EFFECT OF PHENAMINE INDUCED INSOMNIA AND OF SUBSEQUENT SLEEP  
ON PROTEIN CONTENT IN THE NEURONS AND GLIAL CELLS OF THE  
SUPRAOPTIC AND RED NUCLEI OF THE BRAIN. 111831 13-03

- EFFECT OF MORPHINE ON PROTEIN SYNTHESIS IN SYNAPTOSOMES AND  
MITOCHONDRIA OF MOUSE BRAIN. 123273 13-03

- PROTEINS

- THYROID HORMONE BINDING PROTEINS AND ACUTE PSYCHIATRIC  
ILLNESS. 098733 13-14

- AMOUNTS AND TURNOVER RATES OF BRAIN PROTEINS IN MORPHINE  
TOLERANT MICE. 104009 13-03

- THE EFFECTS OF DRUG-INDUCED INCREASES IN RIBONUCLEIC ACIDS AND  
PROTEINS ON MEMORY. (PH.D.DISSERTATION). 109503 13-04

- PROTRIPTYLINE

- CHANGES IN NOREPINEPHRINE TURNOVER IN RAT BRAIN DURING  
CHRONIC ADMINISTRATION OF IMIPRAMINE AND PROTRIPTYLINE: A  
POSSIBLE EXPLANATION FOR THE DELAY IN ONSET OF CLINICAL  
ANTIDEPRESSANT EFFECTS. 086251 13-03

## Subject Index

- THE COMBINATION OF PROTRIPTYLINE AND OXAZEPAM IN DEPRESSED NEUROTIC GENERAL PRACTICE PATIENTS. 103626 13-10
- PROVOKED**  
PSYCHOTIC EPISODES PROVOKED BY A COMBINATION OF BARBITURATES AND PHENMETRAZINE. 112436 13-15
- PSEUDOLYMPHOMA**  
PHENYTOIN AND THE PSEUDOLYMPHOMA SYNDROME. 108799 13-15
- PSILOCYBIN**  
EEG CHANGES AFTER PSILOCYBIN IN ORGANIC BRAIN LESIONS. 104000 13-13  
DIFFERENT REACTION OF FOCAL AND DIFFUSE EPILEPTIC EEG ACTIVITY TO PSILOCYBIN. 104001 13-13  
EFFECTS OF PSILOCYBIN, DIMETHYLTRYPTAMINE, Mescaline AND VARIOUS LYSERGIC ACID DERIVATIVES ON THE EEG AND ON PHOTICALLY INDUCED EPILEPSY (PAPIO-PAPIO). 109620 13-03
- PSYCHEDELIC**  
THE PSYCHEDELIC MYSTICAL EXPERIENCE IN THE HUMAN ENCOUNTER WITH DEATH. 089185 13-12  
A PHYSICIANS RESPONSE TO THE PSYCHEDELIC EXPERIENCE IN THE DEATH ENCOUNTER. 089186 13-12  
THE EXPERIMENTAL USE OF PSYCHEDELIC (LSD) PSYCHOTHERAPY. 116810 13-11
- PSYCHEDELICS**  
PSYCHEDELICS: THE USES AND IMPLICATIONS OF HALLUCINOGENIC DRUGS. 111962 13-12
- PSYCHIATRIC**  
PSYCHOPHARMACOLOGY AND PSYCHIATRIC PRACTICE IN THE SEVENTIES. 072698 13-17  
PSYCHIATRIC TREATMENT FOR GERIATRIC PATIENTS: PUB OR DRUG? 079780 13-14  
COMMON DRUGS CAN CAUSE PSYCHIATRIC ILLNESS. 082031 13-15  
A SURVEY OF PRESCRIBING PATTERNS IN COMMON PSYCHIATRIC CONDITIONS. 086525 13-17  
COMBINATION MEDICATIONS IN PSYCHIATRIC TREATMENT: PATTERNS IN A GROUP OF ELDERLY HOSPITAL PATIENTS. 086704 13-14  
ANOREXIA-NERVOSA, ITS PSYCHIATRIC, INTERNAL AND SURGICAL PROBLEMS. 087042 13-10  
THE POSITION OF BIOLOGICAL PSYCHIATRY AMONG THE PSYCHIATRIC DISCIPLINES. 087865 13-17  
EXPERIENCE WITH LITHIUM PROPHYLAXIS OF RECURRENT EMOTIONAL DISORDERS IN A PSYCHIATRIC OUTPATIENTS CLINIC. 089129 13-17  
DRUG TREATMENT OF HOSPITALIZED PSYCHIATRIC PATIENTS. 089849 13-11  
CHLORPROMAZINE AND SLEEP IN PSYCHIATRIC PATIENTS. 090929 13-14  
ANTICONVULSANT DRUGS, FOLIC ACID METABOLISM, FIT FREQUENCY AND PSYCHIATRIC ILLNESS. 093822 13-15  
METHODS FOR EVALUATING DRUG EFFICACY IN GERIATRIC PSYCHIATRIC DISORDERS. 095540 13-11  
REACTION TIME IN PSYCHIATRIC PATIENTS: PILOT STUDY. 095621 13-15  
OUTLINES OF THE MANAGEMENT OF COMMON PSYCHIATRIC CRISES AND EMERGENCIES IN THE COMMUNITY. 096018 13-17  
IMPLEMENTATION OF PSYCHOTHERAPY BY LIBRIUM IN A PIONEERING RURAL INDUSTRIAL PSYCHIATRIC PRACTICE. 096019 13-10  
SIMULTANEOUS CLINICAL USE OF TWO NEUROLEPTICS (DROPERIDOL AND FLUPENTHIXOL) IN PSYCHIATRIC THERAPY. 096309 13-08  
TRIFLUOPERIDOL IN CHRONIC MALE PSYCHIATRIC PATIENTS. 098731 13-14  
THYROID HORMONE BINDING PROTEINS AND ACUTE PSYCHIATRIC ILLNESS. 098733 13-14  
DRUG MONITORING IN A PSYCHIATRIC UNIT. 099312 13-16  
PRESCRIBING PRACTICE IN A PSYCHIATRIC UNIT. 099906 13-15  
PSYCHIATRIC DRUGS AND TRENDS. 100621 13-11

## Psychopharmacology Abstracts

- EXPERIENCE WITH THE USE OF NIAMID IN PSYCHIATRIC PRACTICE. 102797 13-17  
BLOOD PRESSURE/PULSE RESPONSES TO INTRAVENOUS METHACHOLINE IN PSYCHIATRIC ILLNESS. 102836 13-13  
SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: CHANGES IN THE DIURNAL RHYTHM AND PSYCHIATRIC MENTAL STATUS ON WITHDRAWAL OF DRUGS. 106050 13-08  
LONG-ACTING PHENOTHIAZINE IN PSYCHIATRIC PRACTICE. 106813 13-08  
LEVODOPA NICOTINIC ACID INTERACTION IN PSYCHIATRIC PATIENTS. 107286 13-08  
PSYCHIATRIC COMPLICATIONS OF MEDICAL DRUGS. 107546 13-15  
THE DRUG HISTORY OF PSYCHIATRIC ADMISSIONS. 107597 13-17  
PSYCHIATRIC SIDE-EFFECTS OF LEVODOPA IN MAN. 108007 13-15  
PYRITHOXINE (ENCEPHABOL) IN PSYCHIATRIC PRACTICE. 109885 13-11  
PSYCHIATRIC ASPECTS IN PARKINSONISM TREATED WITH L-DOPA. 111004 13-17  
MODERN PSYCHIATRIC TREATMENT. 113926 13-17  
THE MANAGEMENT OF EXCITEMENT IN A GENERAL HOSPITAL PSYCHIATRIC WARD BY HIGH DOSAGE HALOPERIDOL. 115398 13-14  
CLINICAL STUDY OF THE EFFECT OF SUSTAINED RELEASE THIORIDAZINE IN LONG-TERM PSYCHIATRIC HOSPITAL PATIENTS. 121457 13-07  
ACTION AND ROLE OF SULPRIDE IN THE TREATMENT OF ABDOMINAL PAIN SYNDROMES ASSOCIATED WITH PSYCHIATRIC PROBLEMS. 121849 13-17  
TREATMENT OF EPILEPSY AS A PSYCHIATRIC PROBLEM. 123889 13-11  
ALTERNATE APPLICATION OF MELLERIL SANDOZ (THIORIDAZINE) AND ITS METABOLITE INOFAL IN PSYCHIATRIC THERAPY. 126007 13-11
- PSYCHIATRISTS**  
PRESCRIPTIONS OF PSYCHIATRISTS WORKING IN PRAGUE POLICLINICS. 106099 13-17
- PSYCHIATRY**  
NEUROPHARMACOLOGY AND EXPERIMENTAL PSYCHIATRY: THE EVOLUTION OF A PROJECT - A PROGRESS REPORT. 077427 13-17  
PSYCHIATRY: THE IMPACT OF MODERN TREATMENT. 085332 13-17  
TOXIC AND UNDESIRABLE TREATMENT EFFECTS WITH LITHIUM IN PSYCHIATRY. 086647 13-05  
THE POSITION OF BIOLOGICAL PSYCHIATRY AMONG THE PSYCHIATRIC DISCIPLINES. 087865 13-17  
CONTROLLED TRIAL OF SULPRIDE IN PSYCHIATRY. 090792 13-14  
ORTHOMOLECULAR PSYCHIATRY. 099013 13-17  
PSYCHIATRY AND IMMUNOLOGY: CONTRIBUTION OF THE EXPERIMENTAL STUDY OF THE IMMUNODEPRESSANT EFFECT OF A CORRECTOR OF EXTRAPYRAMIDAL SYNDROMES INDUCED BY NEUROLEPTICS: ETHYLBENZATROPINE. 100604 13-11  
OBSERVATIONS ABOUT THE USE OF PSYCHOPHARMACA IN CHILD PSYCHIATRY. 101076 13-17  
PRINCIPLES OF DRUG THERAPY IN CHILD PSYCHIATRY WITH SPECIAL REFERENCE TO STIMULANT DRUGS. 101214 13-17  
NICOTINIC ACID AND PSYCHIATRY. 102832 13-17  
USE OF LYSERGIC ACID DIETHYLAMIDE IN CHILD PSYCHIATRY. 102838 13-12  
SCALE FOR RATING TREATMENT EMERGENT SYMPTOMS IN PSYCHIATRY DVP. 105837 13-15  
BUTYROPHENONES IN PSYCHIATRY. 107547 13-07  
LITHIUM AND PSYCHIATRY: JOURNAL ARTICLES. 114911 13-09  
DRUGS IN PSYCHIATRY. 115887 13-17  
ANTIANDROGEN THERAPY WITH CYPROTERONE ACETATE IN CHILD AND ADOLESCENT PSYCHIATRY. AN OVERVIEW OF RESULTS ACHIEVED. 125703 13-11
- PSYCHOACTIVE**  
EFFECTS OF SOME PSYCHOACTIVE DRUGS ON CONDITIONED AVOIDANCE RESPONSE IN AGGRESSIVE MICE. 077992 13-04

- EFFECTS OF PSYCHOACTIVE DRUGS ON CONFLICT AVOIDANCE BEHAVIOR IN HUMAN SUBJECTS. 086572 13-14
- CHROMOSOMAL ABERRATIONS IN USERS OF PSYCHOACTIVE DRUGS. 092717 13-14
- THE RELEVANCE OF PSYCHOACTIVE AGENTS TO PSYCHOTHERAPY. 098691 13-17
- THE EFFECTS OF PSYCHOACTIVE AGENTS ON CALCIUM UPTAKE BY PREPARATIONS OF RAT BRAIN MITOCHONDRIA. 101847 13-03
- EFFECTS OF PSYCHOACTIVE AGENTS ON THE CONDITIONING OF THE MICROCIRCULATION IN THE RAT. 101959 13-03
- PSYCHOACTIVE DRUGS: A USAGE GUIDE. 102596 13-17
- THE INFLUENCE OF SOME SELECTED PSYCHOACTIVE DRUGS ON THE SPONTANEOUS CONTRACTILE ACTIVITY OF THE ISOLATED MURINE PORTAL VEIN. 104964 13-03
- EXPLORATION OF CERTAIN BEHAVIORAL PATTERNS INDUCED BY PSYCHOACTIVE AGENTS IN THE RAT. 120964 13-04
- THE INTERFERENCE OF TRICYCLIC PSYCHOACTIVE DRUGS ON THE UPTAKE OF BIOGENIC AMINES BY ISOLATED MAST CELLS. 123282 13-03
- THE BEHAVIORAL EFFECTS OF A NEW PSYCHOACTIVE DRUG (D-CARBINE) ON A PASSIVE AVOIDANCE RESPONSE AND LOCOMOTION AND ITS INTERACTION WITH AMPHETAMINE. 124104 13-02
- PSYCHOCHEMISTRY**  
HISTORICAL AND BIOLOGICAL ASPECTS OF PSYCHOCHEMISTRY. 093646 13-17
- PSYCHODERMATOLOGICAL**  
A PSYCHODERMATOLOGICAL STUDY OF A COMBINATION OF TWO COMPOUNDS RESULTING IN A MIXED REACTION, ANTIDEPRESSIVE AND TRANQUILIZING (AMITRIPTYLINE - PERPHENAZINE). 121753 13-07
- PSYCHODYNAMIC**  
THE PSYCHODYNAMIC IMPLICATIONS OF THE PHYSIOLOGICAL STUDIES ON PSYCHOMIMETIC DRUGS. 115196 13-17
- PSYCHODYSLEPTICS**  
PSYCHOTHERAPY WITH PSYCHODYSLEPTICS. 109010 13-12
- PSYCHOGENIC**  
TREATMENT OF PHOBIC ANXIETY AND PSYCHOGENIC IMPOTENCE BY SYSTEMATIC DESENSITIZATION EMPLOYING METHOHEXITONE INDUCED RELAXATION. 099320 13-10
- PSYCHOGERIATRIC**  
HALOPERIDOL VERSUS THIORIDAZINE FOR HOSPITALIZED PSYCHOGERIATRIC PATIENTS: DOUBLE-BLIND STUDY. 096021 13-11
- REDUCING NIGHT SEDATION IN PSYCHOGERIATRIC WARDS. 110156 13-17
- PSYCHOLOGICAL**  
CLINICAL AND EXPERIMENTAL PSYCHOLOGICAL INVESTIGATIONS OF THE EFFECT OF ANTIANDROGEN CYPROTERONE ACETATE IN SLIGHTLY IRRESPONSIBLE AND GROSSLY IRRESPONSIBLE SEXUAL DELINQUENTS. 088693 13-11
- CLINICAL DANGERS OF PSYCHOLOGICAL THEORIZING: THE GILLES-DE-LA-TOURETTE SYNDROME. 104558 13-17
- SLEEP, PSYCHOLOGICAL AND CLINICAL CHANGES DURING ALCOHOL WITHDRAWAL IN NA-D-TREATED ALCOHOLICS. 106132 13-11
- THE PSYCHOLOGICAL EFFECTS OF PROPRANOLOL IN THE ABSTINENCE PHASE OF CHRONIC ALCOHOLICS. 107596 13-11
- PSYCHOMETRIC**  
A SYSTEMATIC CLINICAL STUDY WITH NICOTINIC ACID, THIORIDAZINE, FLUOXYMESTERONE AND THEIR COMBINATIONS IN HOSPITALIZED GERIATRIC PATIENTS: THERAPEUTIC RESULTS AND CHANGES IN PSYCHOMETRIC TEST PERFORMANCE. 098507 13-11
- PSYCHOMIMETIC**  
THE PSYCHODYNAMIC IMPLICATIONS OF THE PHYSIOLOGICAL STUDIES ON PSYCHOMIMETIC DRUGS. 115196 13-17
- PSYCHOMOTOR**  
LOW LEVEL CARBON MONOXIDE EXPOSURE AND HUMAN PSYCHOMOTOR PERFORMANCE. 078163 13-14
- EFFECTS OF IMIPRAMINE, DESIPRAMINE AND MONOAMINE OXIDASE INHIBITORS ON THE METABOLISM AND PSYCHOMOTOR STIMULANT ACTIONS OF D-AMPHETAMINE IN MICE. 089027 13-04
- EFFICACY OF INTRAVENOUSLY USED PROMAZINE IN ACUTE PSYCHOMOTOR AGITATION. 089307 13-11
- NEW POSSIBILITIES OF CONTROLLING STATES OF UNREST OF A PSYCHOMOTOR OR CEREBROSCLECTIC NATURE IN INSTITUTIONAL GERIATRICS. 102383 13-11
- THE EFFECTS OF CHLORPROMAZINE ON FINE PSYCHOMOTOR PERFORMANCE WITH A SIMULTANEOUS SECONDARY TASK IN SCHIZOPHRENICS. 105926 13-08
- PSYCHOMOTOR PERFORMANCES OF PATIENTS UNDERGOING L-DOPA THERAPY. 107465 13-13
- PSYCHOMOTOR STIMULANT SELF-ADMINISTRATION AS A FUNCTION OF DOSAGE PER INJECTION IN THE RHESUS MONKEY. 111146 13-04
- PSYCHONEUROSES**  
MEDAZEPAM (NOBRIUM) IN THE THERAPY OF PSYCHONEUROSES. 087135 13-10
- THE EFFICACY OF MESORIDAZINE (LIDANIL) IN PSYCHONEUROSES AND SOMATIC ILLNESSES. 089302 13-11
- PSYCHONEUROSES**  
EFFECT OF 7-BROMO-5-(2-PYRIDYL-3H-1,4 BENZODIAZEPINONE, BROMAZEPAM (RO-5-3350), A NEW MINOR TRANQUILIZER, ON PSYCHONEUROSIS WITH SPECIAL REFERENCE TO THE OBSESSIVE-COMPULSIVE SYMPTOMS. 118969 13-10
- PSYCHONEUROTIC**  
DOXEPIN IN THE TREATMENT OF PSYCHONEUROTIC PATIENTS: A COMPARISON BETWEEN TWO CLINICAL SETTINGS. 077431 13-14
- THE TREATMENT OF PSYCHONEUROTIC STATES: A STUDY OF THIORIDAZINE IN AN OFFICE PRACTICE. 078131 13-11
- GLOBAL RATINGS COMPARED TO RATING SCALES IN EVALUATING TRIFLUOPERAZINE AMOBARBITAL IN ANXIOUS PSYCHONEUROTIC OUTPATIENTS. 098093 13-10
- HALOPERIDOL AS A TREATMENT OF ANXIETY IN PSYCHONEUROTIC PATIENTS. 099155 13-10
- DOXEPIN IN THE TREATMENT OF PSYCHONEUROTIC INPATIENTS. 100539 13-10
- PSYCHOORGANIC**  
CASE OF DELIRIUM FOLLOWING RESUSCITATION, WITH MILD PSYCHOORGANIC SEQUELAE. 118222 13-09
- PSYCHOPATHIC-LIKE**  
ON THE CLINICAL PICTURE OF THE SO-CALLED PSYCHOPATHIC-LIKE SYNDROME IN ADOLESCENT GIRLS. 102715 13-17
- PSYCHOPHARMACA**  
OBSERVATIONS ABOUT THE USE OF PSYCHOPHARMACA IN CHILD PSYCHIATRY. 101076 13-17
- PSYCHOPHARMACOLOGIC**  
DOUBLE-BLIND STUDY ON THE CORRELATIONS OF URINARY ELIMINATION OF CATECHOLAMINES AND THEIR METABOLITES (SUPPOSED TO COME THROUGH ADRENOCHROME, NORADRENOCHROME AND DOPACHROME) WITH CLINICAL STATE OF 50 PATIENTS UNDER DIFFERENT PSYCHOPHARMACOLOGIC DRUG. 087003 13-13
- COMPARATIVE PSYCHOPHARMACOLOGIC INVESTIGATION OF CRYOGENINE, CERTAIN NONSTEROID ANTIINFLAMMATORY COMPOUNDS, LUPINE ALKALOID AND CYPROHEPTADINE. 091281 13-02
- AMENTAL AND APHASIC DISTURBANCES APPEARING DURING PSYCHOPHARMACOLOGIC THERAPY. 125070 13-15
- PSYCHOPHARMACOLOGICAL**  
THE EFFECT OF PSYCHOPHARMACOLOGICAL COMPOUNDS ON BRAIN METABOLISM. 087002 13-17
- THERAPEUTIC POSSIBILITIES OF PSYCHOPHARMACOLOGICAL DRUG TRIALS. 087669 13-16
- THE USE OF PSYCHOPHARMACOLOGICAL DRUGS IN THE AGED. 089319 13-17
- PSYCHOPHARMACOLOGICAL PROFILE OF A POTENTIAL ANTIDEPRESSANT PERTAINING TO THE PYRIDOBENZODIAZEPINE SERIES. 091558 13-02
- SOME REFLECTIONS ON THE METHODOLOGY OF CLINICAL PSYCHOPHARMACOLOGICAL RESEARCH. 098734 13-16
- A PSYCHOPHARMACOLOGICAL ANALYSIS OF BEHAVIOUR IN RATS. 102884 13-04

# Subject Index

- PSYCHOPHARMACOLOGICAL AGENTS AND THE ADENOSINE 3,5 MONOPHOSPHATE SYSTEM OF RAT BRAIN. (UNPUBLISHED PAPER). 106060 13-03
- PSYCHOPHARMACOLOGICAL ESTROGEN ACTIVITY. 108570 13-16
- CLINICAL STUDY ON A NEW PSYCHOPHARMACOLOGICAL AGENT, PIPERONYL. 114476 13-11
- PSYCHOPHARMACOLOGICALLY**
- THE INFLUENCE OF PSYCHOPHARMACOLOGICALLY ACTIVE SUBSTANCES ON VARIOUS MODELS OF AN INFLAMMATORY REACTION. 118201 13-05
- PSYCHOPHARMACOLOGY**
- PSYCHOPHARMACOLOGY AND PSYCHIATRIC PRACTICE IN THE SEVENTIES. 072698 13-17
- MCGILL RECOGNIZES SPECIALITY OF PSYCHOPHARMACOLOGY BY ESTABLISHING NEW DEPARTMENT. 078127 13-17
- TRIAL MANAGEMENT IN PSYCHOPHARMACOLOGY: THE ROLES AND TASKS OF AN INDUSTRY PHYSICIAN. 078957 13-17
- SOME CRITICAL CONSIDERATIONS ON HUMAN CONDITIONING IN PSYCHOPHARMACOLOGY. 086768 13-17
- THE PSYCHOPHARMACOLOGY OF DEPRESSION: PERSPECTIVES IN RESEARCH. 091119 13-10
- CLINICAL PERSPECTIVES IN PSYCHOPHARMACOLOGY. 094122 13-17
- PSYCHOPHARMACOLOGY IN CHILDREN: PROBLEM AREAS, METHODOLOGICAL CONSIDERATIONS, AND ASSESSMENT TECHNIQUES. 095541 13-11
- CRITICAL REVIEW OF ANNE E. CALDWELL'S ORIGINS OF PSYCHOPHARMACOLOGY FROM CPZ TO LSD. 105554 13-17
- PSYCHOPHARMACOLOGY. 112083 13-17
- PSYCHOPHARMACOTHERAPY**
- PSYCHOPHARMACOTHERAPY IN PEDOPSYCHIATRY: PARADOXICAL RESPONSES AND ENCOUNTERED DIFFICULTIES. 095743 13-15
- PSYCHOPHYSIOLOGIC**
- PSYCHOPHYSIOLOGIC CORRELATES OF MSH ACTIVITY IN MAN. 106761 13-14
- PSYCHOSES**
- SECONDARY GLUTETHIMIDE ADDICTION IN ENDOGENOUS ATYPICAL PSYCHOSES. 087021 13-15
- PRODUCTION OF LOCAL ANAPHYLACTIC REACTIONS AS AN ATTEMPT TO TREAT DEPRESSIVE PSYCHOSES. 087035 13-07
- A CONTRIBUTION TO ETIOPATHOGENESIS OF DISULFIRAM ALCOHOLIC PSYCHOSES. 087136 13-15
- PHARMACOLOGICALLY INDUCED PSYCHOSES. 087189 13-15
- PROPHYLACTIC DISPENSATION OF LITHIUM CARBONATE IN AFFECTIVE PSYCHOSES. 087191 13-11
- LITHIUM PROPHYLAXIS IN MANIC-DEPRESSIVE PSYCHOSES. 088690 13-09
- TOXIC DRUG-INDUCED PSYCHOSES. 101309 13-15
- PROPHYLACTIC ADMINISTRATION OF LITHIUM CARBONATE IN AFFECTIVE PSYCHOSES. 101311 13-09
- PROPHYLACTIC EFFECTS OF LITHIUM SALTS IN PERIODIC AFFECTIVE PSYCHOSES. 101967 13-09
- CLINICAL EXPERIENCE WITH FLUSPIRILENE IN PSYCHOSES. 105828 13-09
- CLINICAL EXPERIENCE WITH CLOTHIAPIN (ENTUMIN) IN SCHIZOPHRENIC PSYCHOSES. 105924 13-08
- THIOETHIXENE IN SCHIZOPHRENIC PSYCHOSES. 105927 13-08
- CLINICAL EXPERIENCE WITH PROPHYLACTIC LITHIUM THERAPY OF MANIC-DEPRESSIVE PSYCHOSES. 105928 13-09
- USE OF LITHIUM SALTS IN TREATMENT AND PREVENTION OF AFFECTIVE PSYCHOSES. 113750 13-09
- PROPHYLACTIC EFFECT OF LITHIUM SALT IN AFFECTIVE PSYCHOSES. 118208 13-09
- LITHIUM PROPHYLAXIS OF CYCLOTHYMIC PSYCHOSES. 125991 13-09

# Psychopharmacology Abstracts

- PSYCHOSEXUAL**
- PSYCHOSEXUAL EFFECTS OF HORMONE THERAPY. 099658 13-13
- PSYCHOSIS**
- A CASE OF ORGANOPHOSPHORUS INDUCED PSYCHOSIS. 074828 13-15
- THE USE OF MEGAVITAMIN THERAPY IN REGULATING SEVERE BEHAVIOR DISORDERS, DRUG ABUSES AND FRANK PSYCHOSIS. 082735 13-17
- BEHAVIORAL RESEARCH AND EXPERIMENTAL PSYCHOSIS. 083378 13-12
- PSYCHOSIS INDUCED BY ORAL CONTRACEPTION. 089329 13-15
- THIORIDAZINE INDUCED TOXIC PSYCHOSIS. 089349 13-15
- TOXIC PSYCHOSIS INDUCED BY HIGH-DOSAGE CHLORPROMAZINE THERAPY. 089350 13-15
- TOXIC PSYCHOSIS INDUCED BY ASTHMA-DOR. 092693 13-15
- PROPHYLACTIC EFFECT OF LITHIUM SALTS IN PERIODIC AFFECTIVE PSYCHOSIS. 102602 13-09
- LITHIUM PROPHYLAXIS IN MANIC-DEPRESSIVE PSYCHOSIS AND IN RECURRENT ENDOGENOUS DEPRESSIONS. 103320 13-09
- VITAMIN-E INEFFECTIVE IN RECURRENT PSYCHOSIS. 104638 13-09
- PSYCHOSIS AND KETAMINE. 105089 13-15
- RESULTS OF LITHIUM TREATMENT OF MANIC-DEPRESSIVE PSYCHOSIS IN COMPARISON WITH THE CONTROL GROUP. 105830 13-09
- REPEATED EPISODES OF PHENMETRAZINE PSYCHOSIS. 105894 13-15
- CONTROLLED TRIAL OF PENFLURIDOL IN ACUTE PSYCHOSIS. 111694 13-09
- EXOGENOUS PSYCHOSIS FOLLOWING ACCIDENTAL HALOPERIDOL INTOXICATION. 118217 13-15
- INFLUENCE OF ACTIVE BIOLOGICAL TREATMENT ON THE TIME OF DURATION OF REMISSION IN MANIC-DEPRESSIVE PSYCHOSIS. 122942 13-09
- ATTEMPTED THERAPY OF DEPRESSIVE PSYCHOSIS BY MEANS OF EXPERIMENTALLY INDUCED SKIN ALLERGIES. 126102 13-09
- PSYCHOSOCIAL**
- PSYCHOSOCIAL PROFILES AND EFFICACY OF LITHIUM TREATMENT. 092453 13-09
- PSYCHOSOMATIC**
- FLUPENTHIXOL (FLUANXOL) IN THE TREATMENT OF PSYCHOSOMATIC DISORDERS IN MEDICINE. 099882 13-10
- PSYCHOSOMATIC ASPECTS OF GASTROENTEROLOGICAL DISORDERS. 125956 13-17
- PSYCHOSTIMULATOR**
- EXPERIMENTAL AND CLINICAL INVESTIGATION OF THE NEW PSYCHOSTIMULATOR SYDNOCARB. 107728 13-13
- PSYCHOTHERAPEUTIC**
- THE PHARMACOLOGIST - CLINICAL INVESTIGATOR DIALOGUE IN EVALUATION OF NEW PSYCHOTHERAPEUTIC DRUGS. 078956 13-07
- PHYSICIAN CHARACTERISTICS AND ATTITUDES TOWARD LEGITIMATE USE OF PSYCHOTHERAPEUTIC DRUGS. 093860 13-17
- DETECTION OF SOME PSYCHOTHERAPEUTIC DRUGS AND THEIR METABOLITES IN URINE. 098636 13-13
- NEUROPHARMACOLOGIC ANALYSIS OF AHR-2277: A NEW PSYCHOTHERAPEUTIC AGENT. 106154 13-02
- THE USE OF PSYCHOTHERAPEUTIC DRUGS BY MIDDLE-AGED WOMEN. 108270 13-17
- PSYCHOTHERAPY**
- IMPLEMENTATION OF PSYCHOTHERAPY BY LIBRIUM IN A PIONEERING RURAL INDUSTRIAL PSYCHIATRIC PRACTICE. 096019 13-10
- THE RELEVANCE OF PSYCHOACTIVE AGENTS TO PSYCHOTHERAPY. 098691 13-17
- CROHNS DISEASE: TREATMENT BY CORTICOSTEROIDS, ANTIBIOTICS AND PSYCHOTHERAPY. 100854 13-11
- PSYCHOTHERAPY AND ATARAXIC DRUGS. 103237 13-17
- PSYCHOTHERAPY WITH PSYCHODYSEPTICS. 109010 13-12

- THE EXPERIMENTAL USE OF PSYCHEDELIC (LSD) PSYCHOTHERAPY. 116810 13-11
- PSYCHOTIC**
- A CLINICAL COMPARISON OF MOLINDONE HYDROCHLORIDE WITH TRIFLUOPERAZINE IN PSYCHOTIC OUTPATIENTS. 078941 13-08
- CLOMACRAN AND CHLORPROMAZINE IN PSYCHOTIC OUTPATIENTS; A CONTROLLED STUDY. 086521 13-08
- A CLINICAL STUDY WITH PROPERICIAZINE IN CHRONIC PSYCHOTIC PATIENTS. 086895 13-11
- IATROGENIC PSYCHOTIC DEPRESSIVE REACTION IN HYPERTENSIVE PATIENTS. 088147 13-15
- ACUTE PSYCHOTIC STATES. 098230 13-09
- CLINICAL AND ERGOTHERAPEUTIC EVALUATION OF FLUSPIRILENE (R-6218), A LONG-ACTING INJECTABLE NEUROLEPTIC, IN CHRONIC PSYCHOTIC PATIENTS. 102577 13-07
- FLUPHENAZINE ENANTHATE IN THE TREATMENT OF CHRONIC PSYCHOTIC PATIENTS: A CONTROLLED CLINICAL STUDY. 105673 13-08
- THE PSYCHOTIC HEROIN ADDICT. 111517 13-14
- PSYCHOTIC EPISODES PROVOKED BY A COMBINATION OF BARBITURATES AND PHENMETRAZINE. 112436 13-15
- PSYCHOTICS**
- HALOPERIDOL IN 60 CRIMINAL PSYCHOTICS. 079232 13-07
- PSYCHOTOMIMETIC**
- PSYCHOTOMIMETIC PHENETHYLAMINES. 087351 13-17
- PSYCHOTOMIMETIC COMPOUNDS IN MAN AND ANIMALS. 099337 13-12
- COMPARATIVE PSYCHOTOMIMETIC EFFECTS OF STEREOISOMERS OF AMPHETAMINE. 102535 13-12
- INFLUENCE OF PSYCHOTOMIMETIC SUBSTANCES ON THE ENERGETIC METABOLISM OF BRAIN MITOCHONDRIA. 107725 13-03
- THE PSYCHOTOMIMETIC AGENTS. 111878 13-17
- MECHANISM OF ACTION OF PSYCHOTOMIMETIC DRUGS IN THE BRAIN STEM. 125593 13-13
- PSYCHOTOMIMETICS**
- PERIPHERAL EFFECTS OF ANTICHOLINERGIC PSYCHOTOMIMETICS. 105991 13-03
- PSYCHOTONE**
- FURTHER EXPERIENCE IN THE TREATMENT OF DEPRESSIVE STATES WITH A COMBINATION OF PSYCHOTONE AND ELECTROSHOCK THERAPY. 112443 13-09
- PSYCHOTROPIC**
- DOET (2,5 DIMETHOXY-4-ETHYLAMPHETAMINE), A NEW PSYCHOTROPIC DRUG; EFFECTS OF VARYING DOSES IN MAN. 071566 13-12
- AGREEMENT ON SPECIFICITY OF PSYCHOTROPIC DRUGS. 078130 13-16
- PRIMARY LEVELS OF UNDERREPORTING PSYCHOTROPIC DRUG USE. 078803 13-17
- EFFECTS OF SOME PSYCHOTROPIC DRUGS ON DOPAMINE SYNTHESIS IN THE RAT STRIATUM. 082783 13-03
- EFFECT OF AMMONIUM CHLORIDE ON THE POTENTIATION OF AMPHETAMINE BY PSYCHOTROPIC DRUGS IN THE RAT. 082793 13-03
- MODIFICATION BY PSYCHOTROPIC DRUGS OF THE CYCLIC ADENOSINE MONOPHOSPHATE RESPONSE TO NOREPINEPHRINE IN RAT BRAIN. 082864 13-03
- EFFECT OF PSYCHOTROPIC DRUGS ON TRYPTOPHAN CONCENTRATION IN THE RAT BRAIN. 086107 13-03
- AGRANULOCYTOSIS, LEUKOPENIA, AND PSYCHOTROPIC DRUGS. 086417 13-13
- PLASMA LEVELS OF PSYCHOTROPIC DRUGS. 086530 13-16
- ROLE OF CEREBRAL DOPAMINE IN THE ACTION OF PSYCHOTROPIC DRUGS. 087361 13-04
- ANALGESICS AND PSYCHOTROPIC DRUGS IN THE MANAGEMENT OF DISEASE OF THE GUT. 087867 13-17
- A PROPOSAL FOR A CONSISTENT NIGHT THERAPY FOR THE MENTAL PATIENT; CONJOINTLY, A CAUSISTIC CONTRIBUTION TO A DAY NIGHT THERAPY FOR DEPRESSIONS WITH PSYCHOTROPIC DRUGS. 089067 13-09
- PRINCIPLES AND PROBLEMS IN ESTABLISHING THE EFFICACY OF PSYCHOTROPIC AGENTS. 095532 13-17
- RATIONALITY IN THE ASSESSMENT OF PSYCHOTROPIC DRUG EFFICACY. 095533 13-17
- DECISION PROCESSES IN ESTABLISHING THE EFFICACY AND SAFETY OF PSYCHOTROPIC AGENTS. 095534 13-17
- ESTABLISHING THE EFFICACY OF PSYCHOTROPIC AGENTS; METHODOLOGY. 095535 13-17
- EVALUATION OF EFFICACY OF PSYCHOTROPIC AGENTS IN SCHIZOPHRENIC POPULATIONS; METHODOLOGICAL PROCEDURES. 095536 13-08
- COMPLICATIONS OF PSYCHOTROPIC MEDICATIONS IN HIGH DOSAGE. 098690 13-15
- ANXIETY, DEPRESSION AND PSYCHOTROPIC DRUGS. 098916 13-14
- A TECHNIQUE IN THE EVALUATION OF PSYCHOTROPIC MEDICATION BASED ON A PATIENT DEMAND SCHEDULE; COMPARISON OF THE EFFICACY OF OXYPERTINE, DIAZEPAM AND PLACEBO IN ANXIETY. 100538 13-10
- TECHNIQUES USED TO ASSESS THE EFFICACY OF PSYCHOTROPIC DRUGS; A CRITICAL REVIEW. 102937 13-16
- EMOTION AND SKIN: A DOUBLE-BLIND EVALUATION OF PSYCHOTROPIC AGENTS. 103630 13-13
- DIFFERENTIAL ACTIVITY OF SOME PSYCHOTROPIC DRUGS AS A FUNCTION OF EMOTIONAL LEVEL IN ANIMALS. 103952 13-04
- CLINICAL AND PHARMACOLOGICAL INVESTIGATION OF A NEW PSYCHOTROPIC DRUG SULPIRIDE (DOGMATIL). 105825 13-07
- NEURO AND PSYCHOTROPIC DRUGS IN PRESCRIPTIONS OF PHYSICIANS IN THE DISTRICT PRAGUE 6. 106098 13-17
- INVESTIGATING THE PSYCHOTROPIC EFFECT OF 1,10-TRIMETHYLENE-PYRAZINOINDOLE. 111290 13-03
- ON THE RELATIONSHIP BETWEEN THE CHEMICAL STRUCTURE AND PSYCHOTROPIC ACTIVITY AMONG DERIVATIVES OF BENZODIOXANE AND TRIMETHYLBENZOIC AND TRIMETHOXYBENZOIC ACIDS. 111291 13-03
- A PSYCHOTROPIC AGENT IN DYSPESIA. 111657 13-14
- EVALUATION OF PSYCHOTROPIC DRUGS IN GENERAL PRACTICE. 111660 13-14
- PSYCHOTROPIC DRUGS OF PROLONGED EFFECT IN REHABILITATION AND READAPTATION OF SCHIZOPHRENIC PATIENTS. 111738 13-08
- EFFECT OF PSYCHOTROPIC AGENTS ON THE EMOTIONAL BEHAVIOR OF CATS INJECTED WITH ACETYLCHOLINE INTO THE CENTRAL GRAY MATTER. 112007 13-04
- SINGLE SUBJECT DESIGNS FOR ASSESSMENT OF PSYCHOTROPIC DRUG EFFECTS IN CHILDREN. 112085 13-14
- QUANTITATIVE PHARMACO-ELECTROENCEPHALOGRAPHY IN EARLY EVALUATION OF PSYCHOTROPIC DRUGS. 118968 13-16
- METHODOLOGICAL DIFFICULTIES OF EVALUATING PSYCHOTROPIC DRUGS. 122945 13-17
- EXPERIENCE WITH A NEW PSYCHOTROPIC DRUG, OXAZOLAM, IN TREATMENT OF ANXIETY NEUROSES. 123050 13-10
- EFFECTS ON THE AMYGDALO-HIPPOCAMPAL EVOKED POTENTIAL IN THE CAT OF FOUR BENZODIAZEPINES AND SOME OTHER PSYCHOTROPIC DRUGS. 125960 13-03
- PSYCHOTROPIC DRUGS IN THE YEAR 2000. 126181 13-17
- PTERINS**
- THE PREPARATION OF 6 SUBSTITUTED PTERINS VIA THE ISAY REACTION (UNPUBLISHED PAPER). 092896 13-01
- PUB**
- PSYCHIATRIC TREATMENT FOR GERIATRIC PATIENTS: PUB OR DRUG? 079780 13-14

# Subject Index

# Psychopharmacology Abstracts

- PUBLIC**  
THE EFFECTIVENESS OF METHYLPHENIDATE HYDROCHLORIDE (RITALIN) ON LEARNING AND BEHAVIOR IN PUBLIC SCHOOL EDUCABLE MENTALLY RETARDED CHILDREN. 087272 13-14
- PULL**  
THE MECHANISM OF THE PUSH AND PULL PRINCIPLE. VIII. ENDOCRINE EFFECTS OF THALIDOMIDE AND ITS ANALOGUES. 106146 13-03
- PULP**  
THE EFFECTS OF MORPHINE, PENTOBARBITAL AND CHLORPROMAZINE ON BIOELECTRICAL POTENTIALS EVOKED IN THE BRAIN STEM OF THE CAT BY ELECTRICAL STIMULATION OF THE GINGIVA AND TOOTH PULP. 094254 13-05
- PULSE**  
BLOOD PRESSURE/PULSE RESPONSES TO INTRAVENOUS METHACHOLINE IN PSYCHIATRIC ILLNESS. 102836 13-13
- PUPILARY**  
PUPILLARY PARALYSIS AFTER TRANQUILLIZER. 100134 13-15
- PUPILS**  
SODIUM RETENTION AND NORADRENALINE SENSITIVITY OF THE PUPILS AND OF THE CARDIOVASCULAR SYSTEM. 106149 13-03
- PURKINJE**  
MECHANISMS OF INHIBITION OF CEREBELLAR PURKINJE CELLS IN RAT AND FROG. 125594 13-03
- PUROMYCIN**  
EFFECTS OF PUROMYCIN ON RETENTION OF INSTRUMENTAL TRAINING OF MICE. 106685 13-04  
EFFECT OF PUROMYCIN AND ACTINOMYCIN-D INJECTION INTO THE MESENCEPHALIC RETICULAR FORMATION ON THE CONDITIONED REFLEXES OF ANIMALS. 113758 13-04
- PUSH**  
THE MECHANISM OF THE PUSH AND PULL PRINCIPLE. VIII. ENDOCRINE EFFECTS OF THALIDOMIDE AND ITS ANALOGUES. 106146 13-03
- PUTAMEN**  
CHOLINERGIC AND NEUROLEPTIC INDUCED CATALEPSY: MODIFICATION BY LESIONS IN THE CAUDATE PUTAMEN. 086899 13-03
- PYRAZOLE**  
COMPARISON OF PYRAZOLE AND 4-BROMOPYRAZOLE AS INHIBITORS OF ALCOHOL DEHYDROGENASES: THEIR POTENCY, TOXICITY AND DURATION OF ACTION IN MICE. 094253 13-05  
PYRAZOLE AND ETHANOL POTENTIATION OF TRYPTOPHOL INDUCED SLEEP IN MICE. 103647 13-04  
INTERACTION EFFECTS OF ETHANOL AND PYRAZOLE IN LABORATORY RODENTS. 104536 13-03  
EFFECT OF PYRAZOLE IN VIVO ON ALDEHYDE METABOLISM IN RAT LIVER AND BRAIN. 105709 13-03
- PYREXIA**  
PYREXIA AND RAISED SERUM CREATINE PHOSPHOKINASE AFTER AMYLOBARBITONE. 086511 13-15
- PYRIDAZINE**  
BIOCHEMICAL STUDIES OF CEREBRAL SUBFRACTIONS AFTER CHRONIC ADMINISTRATION OF PYRIDAZINE (N MORPHOLINE 3-ETHYLAMINE 4-PHENYL 6-PYRIDAZINE HYDROCHLORIDE, AG-620). 102694 13-03
- PYRIDINE**  
ON THE SELECTIVE EFFECT OF THE NEW ANTIDEPRESSANT FLUORACIZINE ON THE ACTIVITY OF PYRIDINE DEHYDROGENASES IN THE BRAIN OF RATS. 111703 13-03
- PYRIDINE-BETA-CARBONIC**  
TREATMENT OF NEUROPSYCHIATRIC DISORDERS WITH PYRIDINE-BETA-CARBONIC ACID. PART II. 126008 13-11
- PYRIDOBENZODIAZEPINE**  
PSYCHOPHARMACOLOGICAL PROFILE OF A POTENTIAL ANTIDEPRESSANT PERTAINING TO THE PYRIDOBENZODIAZEPINE SERIES. 091558 13-02
- PYRIDOXAL-5-PHOSPHATE**  
PYRIDOXAL-5-PHOSPHATE - AN INHIBITOR OF CATECHOL-O-METHYLTRANSFERASE IN VITRO. 088546 13-03

- PYRIDOXINE**  
USE OF PYRIDOXINE IN CHOREA. 085692 13-15
- PYRITHIOXINE**  
ELECTROENCEPHALOGRAPHIC CHANGES DURING PYRITHIOXINE (ENCEPHABOL) THERAPY. 101936 13-13  
ELECTROENCEPHALOGRAPHIC CHANGES DURING PYRITHIOXINE (ENCEPHABOL) THERAPY. 102604 13-13  
THE EFFECT OF PYRITHIOXINE (ENCEPHABOL) ON BEHAVIOUR OF RATS, MALNOURISHED IN EARLY LIFE. 105999 13-14  
PYRITHIOXINE (ENCEPHABOL) IN PSYCHIATRIC PRACTICE. 109885 13-11
- PYROVALERONE**  
EVALUATION OF PYROVALERONE IN CHRONICALLY FATIGUED VOLUNTEERS. 102350 13-14
- PYRROLASE**  
TRYPTOPHAN PYRROLASE ACTIVITY AFTER CHRONIC ADMINISTRATION OF RESERPINE AND APOMORPHINE IN RATS. 106096 13-03
- PYRROLIDINO**  
EFFECTS OF MORPHOLINO, PYRROLIDINO, PIPERIZINO, AND CYCLOOCTYL DERIVATIVES OF BETA-ALANINE ON BRAIN AMINES AND AMINO ACIDS. 082729 13-04
- QRS**  
ATTEMPT TO ADMINISTER VECTOR CARDIOGRAPHY IN SCHIZOPHRENIA IN AN EVALUATION OF THE QRS COMPLEX. 118205 13-08
- QUALITATIVE**  
RAPID METHOD FOR SIMULTANEOUS QUALITATIVE ASSAY OF NARCOTICS, COCAINE, QUININE AND PROPOXYPHENE IN THE URINE. 100168 13-16  
EFFECT OF MONOAMINE OXIDASE INHIBITORS ON QUALITATIVE ALTERATIONS IN ENZYMATIC PROPERTIES OF MITOCHONDRIAL MONOAMINE OXIDASES. 118566 13-03
- QUANTITATION**  
THE METABOLISM OF HEXOBARBITAL IN MICE AND METHODOLOGY FOR ISOLATION AND QUANTITATION OF ITS METABOLITES IN VIVO AND IN VITRO. 082782 13-03
- QUANTITATIVE**  
IDENTIFICATION AND QUANTITATIVE DETERMINATION OF SOME METABOLITES OF METHADONE, ISOMETHADONE AND NORMETHADONE. 077906 13-05  
EFFECTS OF QUINALBARBITONE (SECOBARBITAL) AND NITRAZEPAM ON THE EEG IN MAN: QUANTITATIVE INVESTIGATIONS. 082826 13-13  
THE EFFECT OF A THYMOLEPTIC DRUG UPON INHIBITION OF DRIVE IN ENDOGENOUS DEPRESSION: A QUANTITATIVE STATISTICAL INVESTIGATION. 087291 13-09  
QUANTITATIVE EEG ANALYSIS OF SINGLE-DOSE EFFECT RELATIONSHIPS IN NORMAL VOLUNTEERS OF PACINOX (CAPURIDE), A NEW ANTIANXIETY DRUG. 087487 13-10  
A QUANTITATIVE ELECTROENCEPHALOGRAPHIC COMPARISON OF SOME BENZODIAZEPINES IN THE PRIMATE. 100212 13-03  
QUANTITATIVE POLYGRAPHIC EVALUATION OF EMOTIONAL TENSION IN THE STUDY OF A NEW BENZODIAZEPINE. 100537 13-07  
A SIMPLE QUANTITATIVE METHOD FOR THE EVALUATION OF PHYSICAL DEPENDENCE LIABILITY OF MORPHINE IN MICE. 102885 13-04  
A QUANTITATIVE STUDY OF NEUROLEPTIC INDUCED EXTRAPYRAMIDAL SYMPTOMS AND THEIR RESPONSE TO DEXTETIMIDE, A POTENT AND LONG-ACTING ANTIPARKINSONIAN AGENT. 115396 13-13  
CLINICAL AND QUANTITATIVE EEG CHANGES AT DIFFERENT DOSAGE LEVELS OF FLUPHENAZINE TREATMENT. 115401 13-08  
QUANTITATIVE PHARMACO-ELECTROENCEPHALOGRAPHY IN EARLY EVALUATION OF PSYCHOTROPIC DRUGS. 118968 13-16
- QUATERNARY**  
INTRASTRIATAL INJECTION OF QUATERNARY BUTYROPHENONES AND OXYPERTINE: NEUROLEPTIC EFFECT IN RATS. 104374 13-04  
EFFECTS OF TERTIARY VS QUATERNARY SCOPOLAMINE ON WATER AND AIR DRINKING IN RATS. 123639 13-04

**QUINALBARBITONE**

EFFECTS OF QUINALBARBITONE (SECOBARBITAL) AND NITRAZEPAM ON THE EEG IN MAN: QUANTITATIVE INVESTIGATIONS.

082826 13-13

**QUININE**

RAPID METHOD FOR SIMULTANEOUS QUALITATIVE ASSAY OF NARCOTICS, COCAINE, QUININE AND PROPOXYPHENE IN THE URINE.

100168 13-16

**QUIPAZINE**

QUIPAZINE, A NEW TYPE OF ANTIDEPRESSANT AGENT.

124103 13-02

**R-30**

HALLUCINOSIS FOLLOWING INTOXICATION WITH PHOSCHLORIDE R-20.

122950 13-15

**R-6218**

CLINICAL AND ERGOTHERAPEUTIC EVALUATION OF FLUSPIRILENE (R-6218), A LONG-ACTING INJECTABLE NEUROLEPTIC, IN CHRONIC PSYCHOTIC PATIENTS.

102577 13-07

**RABBIT**

CHLORDIAZEPOXIDE AND AVERSIVE CONDITIONING: EFFECTS OF ACQUISITION AND PERFORMANCE OF THE CONDITIONED NICTITATING MEMBRANE RESPONSE IN THE RABBIT.

078527 13-04

THE DISPOSITION AND METABOLISM OF TRYPTAMINE AND THE IN VIVO FORMATION OF 6-HYDROXYTRYPTAMINE IN THE RABBIT.

082786 13-03

THE EFFECT OF 5-HYDROXYTRYPTOPHAN AND RESERPINE ADMINISTRATION ON THE LEVEL OF SODIUM, POTASSIUM, CALCIUM, MAGNESIUM AND CHLORIDE IN FIVE DISCRETE AREAS OF THE RABBIT BRAIN.

088665 13-03

THE EFFECT OF HASHISH EXTRACT ON THE NOREPINEPHRINE IN RABBIT BRAIN.

098557 13-03

THE EFFECT OF COCAINE ON CATECHOL-O-METHYLTRANSFERASE AND ON THE RESPONSE TO NOREPINEPHRINE OF RABBIT AORTIC STRIPS.

105391 13-03

INFLUENCE OF A CHRONIC TREATMENT ON THE DISTRIBUTION OF AMITRIPTYLINE AND METABOLITES IN RABBIT BRAIN.

105708 13-03

A COMPARATIVE STUDY ON THE METABOLISM OF 3,4-DIMETHOXYPHENYLETHYLAMINE-C14 AND MESCALINE-C14 BY RABBIT, MOUSE AND RAT BRAIN HOMOGENATES.

106527 13-03

CATATONIA INDUCED IN THE RABBIT BY INTRACEREBRAL INJECTION OF BRADYKININ AND MORPHINE.

120716 13-03

METABOLIC FATE OF CANNABINOIDS IN RABBIT AND RAT.

123262 13-03

**RABBITS**

SUPPRESSION OF FIGHTING BEHAVIOUR IN RABBITS BY PAIRED EMERGENCE FROM ANESTHESIA.

095364 13-04

TERATOGENICITY STUDIES OF METHADONE HCl IN RATS AND RABBITS.

099696 13-05

THE EFFECTS OF MORPHINE, MORPHINONE AND THEBAINE ON THE EEG AND BEHAVIOR OF RABBITS AND CATS.

100217 13-05

INHIBITION OF D-AMPHETAMINE HYPERTHERMIA BY BLOCKADE OF DOPAMINE RECEPTORS IN RABBITS.

105404 13-03

PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN: III. ELECTROENCEPHALOGRAPHIC STUDY IN RABBITS.

105840 13-03

ROLE OF BRAIN MONOAMINES IN THE FATAL HYPERTHERMIA INDUCED BY PETHIDINE OR IMIPRAMINE IN RABBITS PRETREATED WITH PARGYLINE.

109197 13-03

ADRENERGIC MECHANISMS IN HYPOGLYCEMIC SHOCK IN RABBITS: II. DISORDERS OF ADRENERGIC RESPONSE COMPENSATING HYPOGLYCEMIA IN RABBITS TREATED WITH SMALL DOSES OF RESERPINE.

119648 13-03

**RADIO-CONTROLLED**

A BIPHASIC RADIO-CONTROLLED STIMULATOR.

088575 13-06

**RADIOACTIVE**

DECARBOXYLATION OF RADIOACTIVE DOPA BY ERYTHROCYTES IN SCHIZOPHRENIA.

100598 13-14

EFFECTS OF INTRAPERITONEAL INJECTIONS OF LITHIUM CHLORIDE ON THE ENTRY OF RADIOACTIVE CARBON ATOMS OF GLUCOSE AND AMINO ACIDS INTO MOUSE BRAIN AND OTHER TISSUES.

106524 13-03

**RADIOASSAY**

RADIOASSAY OF CHLORPROMAZINE AND ITS METABOLITES IN PLASMA.

104372 13-16

**RAISED**

PYREXIA AND RAISED SERUM CREATINE PHOSPHOKINASE AFTER AMYLOBARBITONE.

086511 13-15

PROBLEMS RAISED IN THE TREATMENT OF NEUROLOGICAL AND NEUROPSYCHIATRIC MANIFESTATIONS IN SYSTEMIC LUPUS-ERYTHEMATOSUS.

089134 13-15

**RANGE**

OBSERVATION ON THE RANGE OF EFFICACY OF L-DOPA.

123464 13-13

**RAPHE**

ACTIVATION OF BRAIN SEROTONIN METABOLISM BY HEAT: ROLE OF MIDBRAIN RAPHE NEURONS.

092374 13-03

THE CENTRAL METABOLISM OF SEROTONIN IN THE CAT DURING INSOMNIA: A NEUROPHYSIOLOGICAL AND BIOCHEMICAL STUDY AFTER ADMINISTRATION OF P-CHLOROPHENYLALANINE OR DESTRUCTION OF THE RAPHE SYSTEM.

099261 13-03

INCREASE OF MORPHINE INDUCED ANALGESIA BY STIMULATION OF THE NUCLEUS RAPHE DORSALIS.

125653 13-03

**RAPID**

BRAIN HISTAMINE: RAPID APPARENT TURNOVER ALTERED BY RESTRAINT AND COLD STRESS.

078017 13-03

SPOT TESTS FOR RAPID DIAGNOSIS OF POISONING.

089180 13-15

RAPID METHOD FOR SIMULTANEOUS QUALITATIVE ASSAY OF NARCOTICS, COCAINE, QUININE AND PROPOXYPHENE IN THE URINE.

100168 13-16

EVALUATION OF A RAPID TECHNIQUE FOR DETECTING MINOR TRANQUILIZERS.

100214 13-06

RAPID LEARNING OF PASSIVE AVOIDANCE BY WEANLING RATS: CONDITIONED TASTE AVERSION.

101354 13-04

RAPID DETECTION OF CERTAIN BASIC DRUGS IN URINE.

101987 13-16

RAPID TRANQUILIZATION.

104086 13-08

THE PHARMACOLOGY OF RAPID EYE MOVEMENT SLEEP.

108524 13-14

A SIMPLE RAPID METHOD FOR PREPARING PARALLEL MICROPIPETTE ELECTRODES.

112202 13-16

A RAPID, SIMPLIFIED PROCEDURE FOR SIMULTANEOUS ASSAY OF NOREPINEPHRINE, DOPAMINE, AND 5-HYDROXYTRYPTAMINE FROM DISCRETE BRAIN AREAS.

117510 13-06

METHYLPHENIDATE ANTAGONISM IN MICE AS A RAPID SCREENING TEST FOR NEUROLEPTIC DRUGS.

123275 13-04

**RAT**

ENHANCED AMPHETAMINE RESPONSES AFTER FRONTAL CORTEX LESIONS IN THE RAT.

073309 13-04

SOME NEUROLOGICAL EFFECTS OF AMPHETAMINE, METHYLAMPHETAMINE AND P-BROMOMETHYLAMPHETAMINE IN THE RAT.

074843 13-03

EFFECTS OF CHLORAL HYDRATE, PARALDEHYDE, AND ETHANOL ON THE METABOLISM OF (14C) SEROTONIN IN THE RAT.

077868 13-03

EFFECT OF DELTA1-TETRAHYDROCANNABINOL ON ATPASE ACTIVITY OF RAT LIVER MITOCHONDRIA.

077870 13-03

THE EFFECT OF DELTA1-TETRAHYDROCANNABINOL ON SEROTONIN METABOLISM IN THE RAT BRAIN.

077902 13-03

DIFFERENTIAL EFFECTS OF D- AND L-AMPHETAMINE ON BEHAVIOR AND ON CATECHOLAMINE DISPOSITION IN DOPAMINE AND NOREPINEPHRINE CONTAINING NEURONS OF RAT BRAIN.

078134 13-04

EFFECTS OF RIBONUCLEASE ON ACQUISITION AND RETENTION OF ESCAPE AVOIDANCE BEHAVIOR IN A SELECTIVELY BRED RAT STRAIN.

078453 13-04

EFFECTS OF HYDROCORTISONE AND CYCLOHEXIMIDE ON BLOOD-BRAIN BARRIER FUNCTION IN THE RAT.

078949 13-03

CARDIOVASCULAR EFFECTS OF INTRAVENOUS MORPHINE IN THE ANESTHETIZED RAT.

079063 13-03

## Subject Index

- THE EFFECT OF METHAMPHETAMINE ON THE NOREPINEPHRINE AND 5-HYDROXYTRYPTAMINE CONTENTS IN ELEVEN RAT BRAIN REGIONS. 080632 13-03
- CHANGES IN THE RETENTION AND METABOLISM OF 3H-1-NOREPINEPHRINE IN RAT BRAIN IN VIVO AFTER 6-HYDROXYDOPAMINE PRETREATMENT. 082721 13-03
- BEHAVIORAL EFFECTS OF METHAMPHETAMINE AND ALPHA-METHYLTYROSINE IN THE RAT. 082723 13-04
- THE METABOLISM AND EXCRETION OF DELTA9-TETRAHYDROCANNABINOL IN THE RAT. 082733 13-03
- THE EFFECT OF PARA-CHLOROPHENYLALANINE ON SPONTANEOUS LOCOMOTOR ACTIVITY IN THE RAT. 082758 13-14
- THE METABOLIC FATE OF PENTYLENETETRAZOL IN THE RAT. 082765 13-03
- EFFECTS OF SOME PSYCHOTROPIC DRUGS ON DOPAMINE SYNTHESIS IN THE RAT STRIATUM. 082783 13-03
- EFFECT OF AMMONIUM CHLORIDE ON THE POTENTIATION OF AMPHETAMINE BY PSYCHOTROPIC DRUGS IN THE RAT. 082793 13-03
- NEUROPHARMACOLOGICAL STUDIES OF IMIDAZOLE-4-ACETIC ACID ACTIONS IN THE MOUSE AND RAT. 082860 13-04
- MODIFICATION BY PSYCHOTROPIC DRUGS OF THE CYCLIC ADENOSINE MONOPHOSPHATE RESPONSE TO NOREPINEPHRINE IN RAT BRAIN. 082864 13-03
- A SIMPLE PROCEDURE FOR CALCULATING THE SYNTHESIS RATE OF NOREPINEPHRINE, DOPAMINE AND SEROTONIN IN RAT BRAIN. 082879 13-06
- RESERPINE AND ACETAZOLAMIDE IN MAXIMUM ELECTROSHOCK SEIZURE IN THE RAT. 082880 13-03
- ON THE MODE OF ACTION OF RESERPINE ON DOPAMINE METABOLISM IN THE RAT STRIATUM. 083162 13-03
- THE EFFECTS OF ETHANOL ON THE DEVELOPMENT OF GASTRIC ULCERATION IN THE RAT. 085478 13-03
- ACUTE TOLERANCE TO THE HYPOTHERMIC EFFECT OF MARIJUANA IN THE RAT. 085487 13-13
- DECLINE IN THE MEAN INTEGRATED ELECTROENCEPHALOGRAPH VOLTAGE DURING MORPHINE ABSTINENCE IN THE RAT. 086106 13-03
- EFFECT OF PSYCHOTROPIC DRUGS ON TRYPTOPHAN CONCENTRATION IN THE RAT BRAIN. 086107 13-03
- THE FATE OF 2,5 DIMETHOXY-4-METHYLAMPHETAMINE (STP,DOM) IN MONKEY AND RAT BRAINS. 086148 13-03
- CANNABIS INDUCED VOCALIZATION IN THE RAT. 086155 13-04
- SPONTANEOUS ACTIVITY AND WATER INTAKE IN THE RAT UNDER THE EFFECTS OF SCOPOLAMINE HBR AND MAGNESIUM PEMOLINE. 086186 13-04
- CHANGES IN NOREPINEPHRINE TURNOVER IN RAT BRAIN DURING CHRONIC ADMINISTRATION OF IMPRAMINE AND PROTRIPTYLINE: A POSSIBLE EXPLANATION FOR THE DELAY IN ONSET OF CLINICAL ANTIDEPRESSANT EFFECTS. 086251 13-03
- PROGESTERONE ESTROGEN INTERACTIONS IN THE CONTROL OF ACTIVITY WHEEL RUNNING IN THE FEMALE RAT. 086683 13-14
- DISSOCIATIVE EFFECTS OF DRUGS ON THE EXTINCTION OF CONDITIONED SUPPRESSION IN THE RAT. 086772 13-04
- THE INCORPORATION OF (3H)URIDINE MONOPHOSPHATE INTO THE RAT BRAIN DURING THE TRAINING PERIOD. A MICROAUTORADIOGRAPHIC STUDY. 086805 13-03
- THE EFFECTS OF PERIPHERALLY ADMINISTERED 6-HYDROXYDOPAMINE ON RAT BRAIN MONOAMINE TURNOVER. 086810 13-03
- EFFECT OF TRIPERIDOL ON PROCESSES INVOLVING ACETYLCHOLINE IN RAT BRAIN IN VITRO. 086821 13-03
- RAT DRUG ADDICTS. 086825 13-04
- PROTEIN METABOLISM AND AMINO ACID ACCUMULATION IN THE RAT SUBMAXILLARY GLAND DURING REDUCED SYMPATHETIC ACTIVITY. 087123 13-03
- FLUORESCENCE MICROSCOPIC STUDY ON RAT BRAIN NEURONS AFFECTED BY HARMALINE ADMINISTRATION. 087212 13-03

## Psychopharmacology Abstracts

- INTERACTION AND ACUTE CROSS-TOLERANCE BETWEEN ETHANOL AND HEXOBARBITONE IN THE RAT. 087344 13-04
- EFFECT OF Mescaline AND Lysergic acid diethylamide ON FLICKER DISCRIMINATION IN THE RAT. 088584 13-04
- DEMONSTRATION OF 3,4 DIHYDROXYBENZOIC(14C) ACID AND (14C)VANILLIC ACID AFTER ADMINISTRATION OF (14C)NORADRENALINE IN THE RAT. 088637 13-03
- STIMULATION OF (14C) SEROTONIN SYNTHESIS FROM (14C) TRYPTOPHAN BY Mescaline IN RAT PINEAL ORGAN CULTURES. 088702 13-03
- THE EFFECT OF ANTICHOLINERGICS ON THE BEHAVIOUR OF THE RAT IN A SOLITARY AND IN A SOCIAL SITUATION. 088730 13-04
- PHYSICAL DEPENDENCE ON MORPHINE FAILS TO INCREASE SEROTONIN TURNOVER RATE IN RAT BRAIN. 088994 13-03
- ACTION OF FENFLURAMINE ON MONOAMINE STORES OF RAT TISSUES. 089048 13-03
- EFFECTS OF MORPHINE ON CHOLINE ACETYLTRANSFERASE LEVELS IN THE CAUDATE NUCLEUS OF THE RAT. 089050 13-03
- ENHANCEMENT OF FATTY ACID OXIDATION AND MEDIUM CHAIN FATTY ACYL COENZYME A SYNTHETASE BY ADENINE NUCLEOTIDES IN RAT HEART HOMOGENATES. 089434 13-03
- EFFECT OF INHIBITION OF CATECHOLAMINE SYNTHESIS ON CENTRAL CATECHOLAMINE-CONTAINING NEURONES IN THE DEVELOPING ALBINO RAT. 089441 13-03
- EFFECT OF AMINOGLUANIDINE, CHLORPROMAZINE AND NSD-1055 ON GASTRIC SECRETION AND ULCERATION IN THE SHAY RAT. 089442 13-03
- TRANSYNAPTIC INDUCTION OF DOPAMINE-BETA-HYDROXYLASE IN ADRENERGIC TISSUES OF THE RAT (UNPUBLISHED PAPER). 092859 13-03
- A SOURCE OF ERROR IN THE ESTIMATION OF VANILLYLMADELIC ACID IN RAT URINE USING PERIODATE OXIDATION (UNPUBLISHED PAPER). 092893 13-06
- EFFECT OF N,N DIMETHYLTRYPTAMINE AND D-LYSERGIC ACID DIETHYLAMIDE ON THE RELEASE OF 5-HYDROXYINDOLES IN RAT FOREBRAIN. 095366 13-03
- REPLACEMENT OF PROGESTERONE WITH A PHENOTHIAZINE IN THE INDUCTION OF MATERNAL BEHAVIOR IN THE OVARIECTOMIZED NULLIPAROUS RAT. 095383 13-04
- EFFECT OF LITHIUM ADMINISTRATION ON RNA METABOLISM IN RAT BRAIN. 096013 13-03
- SOMATOSENSORY EVOKED RESPONSES IN THE MESENCEPHALIC CENTRAL GRAY MATTER OF THE RAT. 097446 13-03
- INTERACTION OF SEROTONIN ANTAGONISTS WITH HARMALINE INDUCED CHANGES IN OPERANT BEHAVIOR AND BODY TEMPERATURE IN THE RAT. 098160 13-03
- ELECTROENCEPHALOGRAPHIC STUDIES ON CODEINE DEPENDENCE IN RAT WITH SPECIAL REFERENCE TO THE SPIKE FORMATION IN THE HIPPOCAMPUS DURING ABSTINENCE SYNDROME. 098304 13-03
- UPTAKE, METABOLISM AND EXCRETION OF DESMETHYLIMIPRAMINE AND ITS METABOLITES IN THE ISOLATED PERFUSED RAT LIVER. 098616 13-03
- H3-LYSERGIC ACID DIETHYLAMIDE: CELLULAR AUTORADIOGRAPHIC LOCALIZATION IN RAT BRAIN. 098756 13-03
- CATECHOL-O-METHYLTRANSFERASE AND MONOAMINE OXIDASE ACTIVITIES IN RAT SUBMAXILLARY GLAND: EFFECTS OF LIGATION, SYMPATHECTOMY AND SOME DRUGS. 099645 13-03
- THE EFFECT OF YOHIMBINE ON BRAIN SEROTONIN METABOLISM, MOTOR BEHAVIOR AND BODY TEMPERATURE OF THE RAT. 099648 13-03
- DUAL EFFECT OF DEXAMPHETAMINE ON BODY TEMPERATURE IN THE RAT. 099651 13-05
- EFFECTS OF CYPRENORPHINE HYDROCHLORIDE ON SENSORY REINFORCEMENT IN THE RAT. 099685 13-04
- PERSISTENT INCREASE IN BRAIN SEROTONIN TURNOVER AFTER CHRONIC ADMINISTRATION OF LSD IN THE RAT. 099828 13-03
- EFFECT OF SODIUM NITRITE ON MONOAMINE OXIDASE ACTIVITY IN RAT LIVER AND BRAIN. 100100 13-03

- THE INFLUENCE OF 1,5 DICAFFEYLQUINIC ACID ON SERUM LIPIDS IN THE EXPERIMENTALLY ALCOHOLISED RAT. 100334 13-03
- METABOLISM OF PROPRANOLOL BY RAT LIVER MICROSOMES AND ITS INHIBITION BY PHENOTHIAZINE AND TRICYCLIC ANTIDEPRESSANT DRUGS. 101703 13-03
- DEVELOPMENT OF THE UPTAKE AND STORAGE OF L-3H-NOREPINEPHRINE IN THE RAT BRAIN. 101846 13-03
- THE EFFECTS OF PSYCHOACTIVE AGENTS ON CALCIUM UPTAKE BY PREPARATIONS OF RAT BRAIN MITOCHONDRIA. 101847 13-03
- EFFECTS OF PSYCHOACTIVE AGENTS ON THE CONDITIONING OF THE MICROCIRCULATION IN THE RAT. 101959 13-03
- FATTY ACIDS OF LIVER MITOCHONDRIAL AND MICROSOMAL LIPIDS IN THE RAT EXPOSED TO PHENOTHIAZINE DERIVATIVES. 102805 13-03
- EFFECTS OF CHRONIC TRIFLUOPERAZINE ADMINISTRATION IN MULTIPLE DOSAGES ON RAT OFFSPRING BEHAVIOR. 102824 13-04
- EFFECT OF PITRESSIN ON VOLUNTARY ALCOHOL CONSUMPTION IN THE RAT. 102868 13-04
- THE DEVELOPMENT OF TOLERANCE TO AND OF PHYSICAL DEPENDENCE ON MORPHINE FOLLOWING INTRAVENTRICULAR INJECTION IN THE RAT. 102883 13-04
- EFFECTS OF CHLORPROMAZINE AND PROPRANOLOL ON LEFT VENTRICULAR SYSTOLIC PRESSURE, ECG, AND POTASSIUM ION EFFLUX IN THE ISOLATED PERFUSED RAT HEART. 103311 13-03
- EFFECT OF CHLORPROMAZINE, DESMETHYLIMIPRAMINE AND LITHIUM ON DOPAMINE UPTAKE IN THE RAT PANCREAS. 103312 13-03
- INCREASED SEROTONIN TURNOVER IN THE ACUTELY MORPHINE TREATED RAT. 103648 13-03
- DELAYED OXYPHENYLBUTAZONE ABSORPTION BY SOME TRICYCLIC COMPOUNDS IN THE RAT. 103650 13-03
- EFFECTS OF RESTRAINT ON RAT ADRENOMEDULLARY RESPONSE TO 2-DEOXY-D-GLUCOSE. 103948 13-03
- GABA UPTAKE IN RAT CENTRAL NERVOUS SYSTEM: COMPARISON OF UPTAKE IN SLICES AND HOMOGENATES AND THE EFFECTS OF SOME INHIBITORS. 104007 13-03
- THE EFFECTS OF DELTA9-TETRAHYDROCANNABINOL ON THE METABOLISM OF NOREPINEPHRINE IN RAT BRAIN. 104139 13-03
- EFFECT OF ELECTROSHOCK ON 5-HT METABOLISM IN RAT BRAIN. 104140 13-03
- EFFECT OF 6-HYDROXYDOPAMINE ON RAT HEART NORADRENALINE. 104172 13-03
- DIFFERENTIAL ANTAGONISM BETWEEN DMAE (A HEMICHOLINIUM DERIVATIVE) AND ATROPINE ON CONTRACTILE RESPONSES OF THE RAT ILEUM. 104327 13-03
- THE EFFECT OF STRYCHNINE ADMINISTRATION DURING DEVELOPMENT ON ADULT MAZE LEARNING IN THE RAT II: DRUG ADMINISTRATION FROM DAY 51 TO 70. 104377 13-04
- INFLUENCE OF ISOLATION ON THE AGGRESSIVE BEHAVIOR INDUCED BY APOMORPHINE IN THE RAT. 104430 13-04
- MATING BEHAVIOR IN THE MALE RAT TREATED WITH P-CHLOROPHENYALANINE METHYL ESTER ALONE AND IN COMBINATION WITH PARGYLINE. 104431 13-04
- A BIPHASIC ACTION OF CENTRAL CHOLINERGIC STIMULATION ON BEHAVIORAL AROUSAL IN THE RAT. 104432 13-04
- CENTRAL ACTION OF PHENTOLAMINE ADMINISTERED INTRAVENTRICULARLY IN THE RAT. 104434 13-03
- ADRENOCORTICAL FUNCTION AND SEX DIFFERENCES IN ACQUISITION AND EXTINCTION OF ACTIVE AVOIDANCE BEHAVIOR IN THE RAT. 104457 13-04
- REGIONAL AND SUBCELLULAR CHANGES IN THE CONCENTRATION OF 5-HYDROXYTRYPTAMINE AND 5-HYDROXYINDOLEACETIC ACID IN THE RAT BRAIN CAUSED BY HYDROCORTISONE, DL-ALPHA-METHYLTRYPTOPHAN, L-KYNURENE AND IMMOBILIZATION. 104538 13-03
- THE ROLE OF BRAIN NOREPINEPHRINE IN THE ANOREXIC EFFECTS OF DEXTROAMPHETAMINE AND MONOAMINE OXIDASE INHIBITORS IN THE RAT. 104574 13-03
- THE EFFECTS OF INTRAHYPOTHALAMIC INJECTIONS OF DESMETHYLIMIPRAMINE ON FOOD AND WATER INTAKE OF THE RAT. 104806 13-04
- THE EFFECTS OF CHRONIC DOSES OF TRICYANOAMINOPROPENE ON WATER CONSUMPTION IN THE RAT. 105078 13-04
- VARIATION IN HYDROXYTRYPTAMINE METABOLISM IN THE RAT: EFFECTS ON THE NEUROCHEMICAL RESPONSE TO PHENCYCLIDINE. 105403 13-03
- REGIONAL DISTRIBUTION OF PERSISTENTLY BOUND RESERPINE IN RAT BRAIN. 105704 13-03
- EFFECT OF PYRAZOLE IN VIVO ON ALDEHYDE METABOLISM IN RAT LIVER AND BRAIN. 105709 13-03
- DECREASED CALCIUM UPTAKE BY RAT FUNDAL STRIPS AFTER PRETREATMENT WITH NEURAMINIDASE OR LSD IN VITRO. 105710 13-03
- EFFECT OF NOREPINEPHRINE ON THE CONCENTRATION OF ADENOSINE 3,5 MONOPHOSPHATE OF RAT PINEAL GLAND IN ORGAN CULTURE. (UNPUBLISHED PAPER). 106059 13-03
- PSYCHOPHARMACOLOGICAL AGENTS AND THE ADENOSINE 3,5 MONOPHOSPHATE SYSTEM OF RAT BRAIN. (UNPUBLISHED PAPER). 106060 13-03
- FACILITATED AGGRESSION IN THE RAT FOLLOWING 6-HYDROXYDOPAMINE ADMINISTRATION. (UNPUBLISHED PAPER). 106070 13-04
- EFFECTS OF ISOPROTERENOL ON RAT PLASMA CREATINE PHOSPHOKINASE ACTIVITY. 106150 13-03
- JOINT EFFECTS OF MEDIAL SEPTAL LESIONS AND AMYLOBARBITONE INJECTIONS ON RESISTANCE TO EXTINCTION IN THE RAT. 106392 13-04
- EFFECT OF NEUROLEPTICS ON BRAIN AMPHETAMINE CONCENTRATIONS IN THE RAT. 106428 13-03
- BRAIN NOREPINEPHRINE AND SEROTONIN LEVELS FOLLOWING REM SLEEP DEPRIVATION IN THE RAT. 106492 13-03
- A COMPARATIVE STUDY ON THE METABOLISM OF 3,4-DIMETHOXYPHENYLETHYLAMINE-C14 AND Mescaline-C14 BY RABBIT, MOUSE AND RAT BRAIN HOMOGENATES. 106527 13-03
- ONTOGENY OF AMPHETAMINE ANOREXIA AND INSULIN HYPERPHAGIA IN THE RAT. 106797 13-04
- ALPHA-METHYLTRYPTOPHAN INCREASES 5-HYDROXYTRYPTAMINE-LIKE MATERIAL IN RAT BRAIN. 106909 13-03
- THE UPTAKE AND SUBCELLULAR DISTRIBUTION OF AROMATIC AMINES IN THE BRAIN OF THE RAT. 106922 13-03
- EFFECTS OF PHENOTHIAZINE TRANQUILIZERS ON THE CYCLIC 3,5 ADENOSINE MONOPHOSPHATE SYSTEM OF RAT BRAIN. 107123 13-03
- THE EFFECT OF CAFFEINE AND THEOPHYLLINE ON THE DISPOSITION OF BRAIN SEROTONIN IN THE RAT. 107161 13-03
- CATABOLISM OF 3H-HISTAMINE IN THE RAT BRAIN AFTER INTRACISTERNAL ADMINISTRATION. 107194 13-03
- INTERACTIONS OF MORPHINE AND NALORPHINE WITH PHYSOSTIGMINE ON OPERANT BEHAVIOR IN THE RAT. 107631 13-04
- THE EFFECTS OF SUBACUTE ADMINISTRATION OF TRIODOTHYRONINE (T3) ON THE ACUTE TOXICITY OF LITHIUM IN THE RAT. 107864 13-05
- EFFECT OF TRANQUILIZERS AND ANTIDEPRESSANTS ON GLYCOGEN PHOSPHORYLASE OF RAT BRAIN. 108283 13-03
- EFFECTS OF CHLORDIAZEPOXIDE AND DIAZEPAM ON RESPIRATION AND OXIDATIVE PHOSPHORYLATION IN RAT BRAIN MITOCHONDRIA. 108284 13-03
- COMPOUNDS ANTAGONISTIC TO NOREPINEPHRINE RETENTION BY RAT BRAIN HOMOGENATES. 108289 13-03
- N-DEMETHYLATION AND N-OXIDATION OF IMIPRAMINE BY RAT AND PIG LIVER MICROSOMES. 108290 13-03
- CARBAMAZEPINE PLASMA AND TISSUE LEVELS IN THE RAT. 108395 13-03

## Subject Index

- EFFECT OF 6-HYDROXYDOPAMINE ON THE INCORPORATION OF 14C-LEUCINE INTO RAT BRAIN PROTEIN. 108615 13-03
- KINETICS OF THE GLUCOCORTICOID MEDIATED INDUCTION OF PHENYLETHANOLAMINE N METHYL TRANSFERASE IN THE HYPOPHYSECTOMIZED RAT. 108720 13-03
- CNS EFFECT OF NICOTINE AS THE DISCRIMINATIVE STIMULUS FOR THE RAT IN A T-MAZE. 108732 13-04
- EFFECT OF P-NITROMETHYLAMPHETAMINE ON BIOGENIC AMINES AND THEIR AMINO ACID PRECURSORS IN RAT BRAIN. 108794 13-03
- ALPHA-METHYL-P-TYROSINE AND SLEEP IN THE RAT. 110192 13-04
- PRELIMINARY REPORT ON THE INCORPORATION OF GUANETHIDINE AND RESERPINE INTO RAT PERITONEAL MAST CELLS IN VITRO. 111073 13-03
- EFFECT OF MELIPRAMINE ON SEROTONIN METABOLISM IN THE RAT BRAIN. 111765 13-03
- EFFECTS OF 6-HYDROXYDOPAMINE ON SLEEP IN THE RAT. 114514 13-04
- FORMATION OF (3H)NORADRENALINE AND (3H)DOPAMINE IN THE BRAIN AND HEART OF THE RAT FETUS. 115310 13-03
- PARTIAL ANTAGONISM BY EXOGENOUS CALCIUM OF THE DEPRESSANT EFFECT OF RESERPINE IN RAT SHUTTLE-BOX BEHAVIOR. 117580 13-03
- EFFECT OF RESERPINE ON RELEASE OF (3H)NORADRENALINE, (3H)DOPAMINE AND (3H)METARAMINOL FROM FIELD STIMULATED RAT IRIS. 118563 13-03
- RAT STRAIN DIFFERENCES IN THE ACTIVITY OF HEPATIC MICROSOMAL ENZYMES. 118564 13-03
- EFFECT OF INTRAVENTRICULARLY APPLIED SODIUM OROTATE ON A CONDITIONED AVOIDANCE RESPONSE OF THE RAT. 119690 13-04
- MODIFICATION OF AN OPERANT CONDITIONING IN RAT AFTER A SUBCUTANEOUS INJECTION OF HISTAMINE. 119914 13-04
- EFFECT OF CHLORPROMAZINE ON RAT TISSUE UPTAKE OF 14C-3-O-METHYL-D-GLUCOSE. 120469 13-03
- EFFECTS OF CHLORPROMAZINE, DL-PROPRANOLOL, AND D-PROPRANOLOL IN THE ISOLATED RAT HEART: MODIFICATION OF THE RESPONSE TO ISOPRENALINE AND GLUCAGON. 120719 13-03
- THE EFFECT OF AMANTADINE ON SPONTANEOUS LOCOMOTOR ACTIVITY IN THE RAT. 120820 13-03
- EXPLORATION OF CERTAIN BEHAVIORAL PATTERNS INDUCED BY PSYCHOACTIVE AGENTS IN THE RAT. 120964 13-04
- ANALYSIS OF THE SUPERSENSITIVITY TO NORADRENALINE INDUCED BY AMPHETAMINE IN THE ISOLATED VAS-DEFERENS OF THE RAT. 121065 13-03
- THE EFFECT OF ETHANOL ON PHENOBARBITONE AND PENTOBARBITONE ABSORPTION INTO RAT BLOOD AND BRAIN. 122551 13-03
- METABOLIC FATE OF CANNABINOIDS IN RABBIT AND RAT. 123262 13-03
- ON THE DECREASE IN CONCENTRATION OF 5-HIAA IN RAT BRAIN BY IMIPRAMINE AND RELATED SUBSTANCES. 123264 13-03
- SEXUAL BEHAVIOUR AND TESTOSTERONE IN THE FEMALE RAT. 123276 13-04
- LITHIUM INDUCED INHIBITION OF THE 5-HYDROXYTRYPTAMIN UPTAKE IN VITRO BY RAT THROMBOCYTES. 123280 13-03
- EFFECTS OF NIGRAL LESION AND CHLORPROMAZINE TREATMENT ON TYROSINE HYDROXYLASE ACTIVITY IN CORPUS-STRIATUM OF THE RAT. 123281 13-03
- THE INFLUENCE OF 1-(O-ALLYLPHENOXY)-3 ISOPROPYLAMINO-2-PROPANOL HYDROCHLORIDE (ALPENOLOL) ON THE CENTRAL NERVOUS SYSTEM OF THE RAT. 124105 13-03
- THE INFLUENCE OF HARMINE ON THE BIOELECTRICAL ACTIVITY IN THE RAT HIPPOCAMPUS. 124106 13-03
- THE INFLUENCE OF PROLONGED AMPHETAMINE TREATMENT AND AMPHETAMINE WITHDRAWAL ON BRAIN BIOGENIC AMINE CONTENT AND BEHAVIOUR IN THE RAT. 125163 13-03

## Psychopharmacology Abstracts

- INFLUENCE OF AMPHETAMINE ON THE PATHOLOGICAL STATE OF THE RAT BRAIN. 125422 13-05
- MECHANISMS OF INHIBITION OF CEREBELLAR PURKINJE CELLS IN RAT AND FROG. 125594 13-03
- COMPARISON OF DOSE DEPENDENT DEPLETION OF SOME MONOAMINES IN RAT BRAINS BY MEANS OF RESERPINE AND OXYPERTINE. 126103 13-03
- RATE**
- P-CHLOROAMPHETAMINE, SPECIES DIFFERENCES IN THE RATE OF DISAPPEARANCE AND THE LOWERING OF CEREBRAL SEROTONIN. 077869 13-03
- A SIMPLE PROCEDURE FOR CALCULATING THE SYNTHESIS RATE OF NOREPINEPHRINE, DOPAMINE AND SEROTONIN IN RAT BRAIN. 082879 13-06
- THE EFFECTS OF PHENOTHIAZINE MEDICATION ON SKIN CONDUCTANCE AND HEART RATE IN SCHIZOPHRENIC PATIENTS. 085015 13-08
- PHYSICAL DEPENDENCE ON MORPHINE FAILS TO INCREASE SEROTONIN TURNOVER RATE IN RAT BRAIN. 088994 13-03
- TRYPTOPHAN 5-HYDROXYLASE: APPROXIMATION OF HALF-LIFE AND AXONAL FLOW RATE (UNPUBLISHED PAPER). 092508 13-03
- DRUGS AND THE FETAL HEART RATE. 102288 13-13
- INCREASED RATE OF NORADRENALINE CIRCULATION IN THE HYPOTHALAMUS AFTER DEMEDULLATION OF THE ADRENAL GLANDS. 111704 13-03
- RATES**
- ENHANCED DISSOLUTION RATES FOR A SERIES OF DRUGS AS A FUNCTION OF DOSAGE FORM DESIGN. 100829 13-17
- AMOUNTS AND TURNOVER RATES OF BRAIN PROTEINS IN MORPHINE TOLERANT MICE. 104009 13-03
- MONOAMINE OXIDASE: AN APPROXIMATION OF TURNOVER RATES. 105950 13-03
- RATING**
- A BRIEF RATING SCALE FOR ANTIDEPRESSANT DRUG TRIALS. 078939 13-06
- GLOBAL RATINGS COMPARED TO RATING SCALES IN EVALUATING TRIFLUOPERAZINE AMOBARBITAL IN ANXIOUS PSYCHONEUROTIC OUTPATIENTS. 098093 13-10
- SCALE FOR RATING TREATMENT EMERGENT SYMPTOMS IN PSYCHIATRY DVP. 105837 13-15
- RATINGS**
- GLOBAL RATINGS COMPARED TO RATING SCALES IN EVALUATING TRIFLUOPERAZINE AMOBARBITAL IN ANXIOUS PSYCHONEUROTIC OUTPATIENTS. 098093 13-10
- RATIONALITY**
- RATIONALITY IN THE ASSESSMENT OF PSYCHOTROPIC DRUG EFFICACY. 095533 13-17
- RATS**
- COPULATORY BEHAVIOR OF MALE RATS FOLLOWING RESERPINE ADMINISTRATION. 073485 13-04
- IMPORTANCE OF NORADRENALINE FOUND IN A FUNCTIONAL POOL IN MAINTAINING SPONTANEOUS LOCOMOTOR ACTIVITY IN RATS. 077424 13-04
- EFFECT OF TETRABENAZINE AND ALPHA-METHYL-M-TYROSINE ON EXPLORATORY ACTIVITY AND BRAIN CATECHOLAMINES IN RATS. 077425 13-04
- STUDIES WITH LITHIUM IN EUTHYROTIC, HYPERTHYROTIC AND HYPOTHYROTIC RATS. 077428 13-03
- NOREPINEPHRINE: REVERSAL OF ANOREXIA IN RATS WITH LATERAL HYPOTHALAMIC DAMAGE. 077680 13-04
- N-DEMETHYLATION OF N-14C-METHYL-CODEINE IN MORPHINE TOLERANT AND NONTOLERANT RATS AND MICE. MEDICINE. 077678 13-03
- EFFECTS OF LEARNING, AMPHETAMINE AND NICOTINE ON THE LEVEL AND SYNTHESIS OF BRAIN NORADRENALINE IN RATS. 078012 13-03
- EFFECT OF TRYPTOPHAN ON TOXICITY AND DEPRESSANT EFFECTS OF BARBITURATES AND ETHANOL IN RATS. 078164 13-03
- EFFECTS OF HALOTHANE ANESTHESIA ON THE RETENTION OF A PASSIVE AVOIDANCE TASK IN RATS. 078448 13-04

- AN EXAMINATION OF THE EFFECT OF CENTRAL NERVOUS SYSTEM  
STIMULANT AND ANTIDEPRESSANT DRUGS ON OPEN-FIELD  
PERFORMANCE IN RATS. 078937 13-04
- ALCOHOL INGESTION IN RATS FOLLOWING MEDIAN EMINENCE LESIONS. 079428 13-04
- CORTICOSTERONE ELEVATION MEDIATED CENTRALLY BY DELTA1-  
TETRAHYDROCANNABINOL IN RATS. 079430 13-03
- EFFECTS OF NICOTINE ON SELF-STIMULATION IN RATS. 082722 13-04
- HYDROXYINDOLE-O-METHYLTRANSFERASE V; EFFECTS OF SUBSTITUENTS  
ON HYDROLYSIS OF N-ACYLTRYPTAMINES IN RATS. 082761 13-03
- DIFFERENTIAL SENSITIVITY OF FRONTAL RATS TO D-AMPHETAMINE AND  
SCOPOLAMINE. 082771 13-04
- STATISTICAL AMPLITUDE ANALYSIS OF THE INTEGRATED  
ELECTROCORTICOGRAM OF UNRESTRAINED RATS BEFORE AND AFTER  
PROCHLORPERAZINE. 082863 13-03
- CHRONIC DOPA TREATMENT: EFFECT ON THE CONCENTRATION OF  
NOREPINEPHRINE IN THE HEARTS AND BRAINS OF RATS. 083161 13-03
- BEHAVIORAL EFFECTS OF DOPAMINE AND P-HYDROXYAMPHETAMINE  
INJECTED INTO CORPUS-STRIATUM OF RATS. 085234 13-04
- EFFECTS OF SEPTAL AREA AND CINGULATE CORTEX LESIONS ON OPIATE  
ADDICTION BEHAVIOR IN RATS. 085333 13-04
- EFFECTS OF MONOAMINE OXIDASE INHIBITORS AND RESERPINE ON  
BRAIN AMINES IN ALTITUDE EXPOSED RATS. 085727 13-13
- MORPHINE INDUCED HYPERALGESIA IN RATS TESTED ON THE HOT  
PLATE. 086105 13-04
- PROPRANOLOL INTERFERES WITH INHIBITORY BEHAVIOUR IN RATS. 086156 13-04
- AMPHETAMINE BARBITURATE MIXTURES: LEARNING AND RETENTION IN  
RATS. 086771 13-04
- DESIPRAMINE (DMI); EFFECT ON THE LEVELS OF ACETYLCHOLINE (ACH)  
IN WHOLE BRAIN AND IN STRIATUM OF RATS. 086811 13-03
- BRAIN LEVELS OF IMIPRAMINE AND DESIPRAMINE AFTER COMBINED  
TREATMENT WITH THESE DRUGS IN RATS. 086812 13-03
- METABOLISM OF HARMALINE IN RATS. 086818 13-03
- BIOLOGICAL DISPOSITION OF PENTYLENETETRAZOL-10-14C IN RATS AND  
HUMANS. 087061 13-03
- STUDIES IN VIVO ON THE RELATIONSHIP BETWEEN BRAIN TRYPTOPHAN,  
BRAIN 5-HT SYNTHESIS AND HYPERACTIVITY IN RATS TREATED WITH A  
MONOAMINE OXIDASE INHIBITOR AND L-TRYPTOPHAN. 087124 13-03
- A SIMPLE METHOD FOR MEASURING THE GENERAL ACTIVITY OF RATS IN  
BRAIN STIMULATION AND OTHER STUDIES. 087289 13-06
- EFFECT OF PARA-CHLOROPHENYLALANINE ON THE BEHAVIOUR OF  
CASTRATED MALE RATS. 087360 13-04
- THE EFFECTS OF EPINEPHRINE AND CHLORPROMAZINE ON VISUAL CLIFF  
BEHAVIOR IN HOODED AND ALBINO RATS. 088070 13-04
- A DEVICE FOR THE CHRONIC INTRAVENTRICULAR INFUSION IN FREELY  
MOVING RATS. 088576 13-06
- A METHOD TO MEASURE INTERACTIONS OF VARIOUS AGENTS AND  
ETHANOL ON BEHAVIORAL PERFORMANCE IN RATS. MEDICINE. 088624 13-06
- ACUTE TOXICITY OF DELTA9-TETRAHYDROCANNABINOL IN RATS AND  
MICE. 088625 13-05
- EFFECT OF CHLORDIAZEPoxide ON STRESS IN RATS. 089136 13-03
- SEX DIFFERENCES IN BRAIN DEOXYRIBONUCLEIC ACID AND  
CHOLINESTERASE ACTIVITY IN RATS. 089332 13-04
- THE EFFECTS OF CHLORPROMAZINE AND D-AMPHETAMINE ON THE  
ACQUISITION AND PERFORMANCE OF A CONDITIONED ESCAPE  
RESPONSE IN RATS. 091532 13-03
- EFFECTS OF 1-DELTA-9 AND 1-DELTA8-TRANS-TETRAHYDROCANNABINOL  
AND CANNABINOL ON SCHEDULE CONTROLLED BEHAVIOR OF PIGEONS  
AND RATS. 094255 13-04
- DEFICIT IN ACTIVE AVOIDANCE LEARNING IN RATS FOLLOWING  
PENICILLIN INJECTION INTO HIPPOCAMPUS. 095382 13-04
- EFFECTS OF ESTROGEN AND PROGESTERONE ON SLEEP PATTERNS OF  
FEMALE RATS. 095385 13-04
- DISTURBED PATTERNS OF BEHAVIOUR IN MORPHINE TOLERANT AND  
ABSTINENT RATS. 096150 13-04
- AMOBARBITAL AND THE PARTIAL REINFORCEMENT EFFECT IN RATS:  
ISOLATING FRUSTRATIVE CONTROL OVER INSTRUMENTAL  
RESPONDING. 097414 13-14
- EFFECT OF TEMPORARY SEPTAL DYSFUNCTION ON CONDITIONING AND  
PERFORMANCE OF FEAR RESPONSES IN RATS. 097448 13-03
- THE EFFECT OF PROSTAGLANDIN E2 ON CONDITIONED AVOIDANCE  
RESPONSE PERFORMANCE IN RATS. 098159 13-04
- THE INVOLVEMENT OF CENTRAL CHOLINERGIC MECHANISMS IN THE  
FORMATION AND INHIBITION OF CONDITIONAL REFLEXES IN RATS. 098295 13-04
- THE INFLUENCE OF ADRENOLYTIC AGENTS ON THE CATECHOLAMINE  
TOXIC ACTION IN MICE AND RATS. 098296 13-05
- ACTIONS OF MORPHINE AND NARCOTIC ANTAGONIST ANALGESICS ON  
THE SPINAL CORD OF ACUTE AND CHRONIC SPINAL RATS. 098305 13-03
- METABOLISM, DISTRIBUTION AND EXCRETION OF FLUPENTHOL  
DECANOATE IN DOGS AND RATS. 098615 13-03
- EFFECTS OF L-DELTA-TETRAHYDROCANNABINOL ON TEMPORALLY  
SPACED RESPONDING AND DISCRIMINATED SIDMAN AVOIDANCE  
BEHAVIOR IN RATS. 098924 13-04
- A SURVEY OF SELECTED DRUGS ON BEHAVIOR PERFORMANCE IN  
ETHANOL TREATED RATS. 099649 13-04
- EFFECT OF AN RNA RICH EXTRACT ON ACQUISITION OF A ONE-WAY  
AVOIDANCE RESPONSE IN RATS. 099686 13-04
- TERATOGENICITY STUDIES OF METHADONE HCl IN RATS AND RABBITS. 099696 13-05
- EVIDENCE FOR INHIBITION BY BRAIN SEROTONIN OF MOUSE KILLING  
BEHAVIOR IN RATS. 099794 13-04
- PLASMA MAGNESIUM CONCENTRATION AND URINARY MAGNESIUM  
EXCRETION IN RATS TREATED CHRONICALLY WITH MORPHINE. 099801 13-03
- PLASMA AND BRAIN LITHIUM LEVELS AFTER LITHIUM CARBONATE AND  
LITHIUM CHLORIDE ADMINISTRATION BY DIFFERENT ROUTES IN RATS. 099852 13-03
- TRANQUILIZING EFFECTS OF PROPRANOLOL DEMONSTRATED IN RATS. 100215 13-04
- LSA INDUCED DECREASE IN SERUM PROLACTIN IN RATS. 100220 13-03
- EFFECT OF ETHANOL ON ENTRY OF SOME SUBSTANCES INTO THE BRAINS  
OF RATS. 100508 13-03
- P-CHLOROPHENYLALANINE EFFECTS ON A CONDITIONED EMOTIONAL  
RESPONSE IN RATS. 100565 13-04
- INCREASE OF ETHANOL, MEPROBAMATE AND PENTOBARBITAL  
METABOLISM AFTER CHRONIC ETHANOL ADMINISTRATION IN MAN  
AND IN RATS. 100792 13-13
- RAPID LEARNING OF PASSIVE AVOIDANCE BY WEANLING RATS:  
CONDITIONED TASTE AVERSION. 101354 13-04
- POTENTIATION IN RATS OF BUFOTENIN INDUCED BEHAVIORAL CHANGES  
BY CHLORPROMAZINE. 101570 13-04
- EFFECTS OF VARIOUS HYDRAZINES UPON THE METABOLISM OF GAMMA-  
AMINOBUTYRIC ACID (GABA)-1-14C BY RATS. 101704 13-03
- EFFECTS OF CONFLICT AND STRESS ON ALCOHOL INTAKE IN RATS. 101758 13-04
- HOMOSEXUAL ACTIVITY IN MALE RATS AFTER P-  
CHLOROPHENYLALANINE: EFFECTS OF HYPOPHYSECTOMY AND  
TESTOSTERONE. 102096 13-04
- THE BEHAVIOURAL EFFECTS OF LEVALLORPHAN, CYPRENORPHINE (M-  
285) AND AMPHETAMINE ON REPEATED Y-MAZE PERFORMANCE IN  
RATS. 102190 13-04
- SOME FACTORS CONTROLLING ORAL MORPHINE INTAKE IN RATS. 102195 13-04

## Subject Index

- IDENTIFICATION OF (-)-DELTA-9- $\Delta$ ,10A,TRANS-TETRAHYDROCANNABINOL AND TWO OF ITS METABOLITES IN RATS BY USE OF COMBINATION GAS CHROMATOGRAPHY MASS SPECTROMETRY AND MASS FRAGMENTOGRAPHY. 102733 13-03
- A PSYCHOPHARMACOLOGICAL ANALYSIS OF BEHAVIOUR IN RATS. 102884 13-04
- ACQUISITION OF NEW RESPONSES BY RATS DURING CHRONIC DEPRESSION OF ACETYLCHOLINESTERASE ACTIVITY. 103461 13-04
- THE EFFECT OF PRE- AND POST-TRIAL AMPHETAMINE INJECTIONS ON AVOIDANCE RESPONSES OF RATS. 103944 13-04
- INCREASED RESISTANCE TO EXTINCTION OF AN AVOIDANCE RESPONSE IN RATS FOLLOWING THE ADMINISTRATION OF HASHISH RESIN. 103951 13-04
- PROLONGED TREATMENT WITH MORPHINE IN RATS: DRUG/BEHAVIOR INTERACTION UNDER AVERSIVE CONTROL. 103954 13-04
- EFFECTS OF DIAZEPAM ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS. 104138 13-04
- DRUG-INDUCED SUPPRESSION OF CONDITIONED HYPERTHERMIC AND CONDITIONED AVOIDANCE BEHAVIOR RESPONSE IN RATS. 104144 13-04
- PHARMACOLOGICAL PROTECTION AGAINST HYPOXIA INDUCED AMNESIA IN RATS. 104145 13-04
- EFFECTS OF ALPHA-METHYLTYROSINE AND ADRENERGIC BLOCKING AGENTS ON THE FACILITATING ACTION OF AMPHETAMINE AND NICOTINE ON LEARNING IN RATS. 104373 13-04
- INTRASTRIATAL INJECTION OF QUATERNARY BUTYRPHENONES AND OXYPERTINE: NEUROLEPTIC EFFECT IN RATS. 104374 13-04
- THE INFLUENCE OF LOW LSD DOSE ADMINISTRATION DURING SLEEP IN RATS. 104429 13-04
- EFFECTS OF NICOTINE, NICOTINE MONOMETHIODIDE, LOBELINE, CHLORDIAZEPOXIDE, MEPROBAMATE AND CAFFEINE ON A DISCRIMINATION TASK IN LABORATORY RATS. 104433 13-04
- DEVELOPMENT OF MORPHINE DEPENDENCE IN RATS: LACK OF EFFECT OF PREVIOUS INGESTION OF OTHER DRUGS. 104436 13-04
- ANTAGONISM OF D-AMPHETAMINE INDUCED HYPERTHERMIA IN RATS BY PIMAZIDE. 104472 13-03
- THE EFFECT OF L-DOPA ON BRAIN CATECHOLAMINES AND MOTILITY IN RATS. 104575 13-03
- EFFECT OF POST-TRIAL INJECTION OF BETA ADRENERGIC BLOCKING AGENTS ON A CONDITIONED REFLEX IN RATS. 104577 13-04
- INFLUENCE OF (-)-DELTA(6) TRANS-TETRAHYDROCANNABINOL AND MESCALINE ON THE BEHAVIOR OF RATS SUBMITTED TO FOOD COMPETITION SITUATIONS. 104578 13-04
- METABOLISM OF DELTA9-TETRAHYDROCANNABINOL BY LUNG AND LIVER HOMOGENATES OF RATS TREATED WITH METHYLCHOLANTHRENE. 104765 13-03
- THE ACUTE EFFECTS OF ESTROGEN AND PROGESTERONE ON THE MONOAMINE LEVELS OF THE BRAIN OF OVARECTOMIZED RATS. 104790 13-03
- INDUCTION OF BIZARRE BEHAVIOUR IN RATS BY P-CHLOROAMPHETAMINE, A SEROTONIN DEPLETOR, AFTER REPEATED DRUG ADMINISTRATION. 104793 13-04
- EXTINCTION OF FEAR I: EFFECTS OF AMYLOBARBITONE AND DEXAMPHETAMINE GIVEN SEPARATELY AND IN COMBINATION ON FEAR AND EXPLORATORY BEHAVIOUR IN RATS. 104827 13-04
- ANALYSIS OF THE ACQUISITION AND EXTINCTION OF FOOD REINFORCED BEHAVIOR IN RATS AFTER THE ADMINISTRATION OF CHLORPROMAZINE. 105012 13-04
- THE EFFECTS OF VARIOUS ANTIDEPRESSANT DRUGS UPON THE TETRABENAZINE SUPPRESSED CONDITIONED AVOIDANCE RESPONSE IN RATS. 105013 13-04
- AUTONOMIC AROUSAL AND AFFILIATION IN RATS. 105060 13-04
- EFFECTS OF APOMORPHINE AND AMPHETAMINE IN RATS WITH A PERMANENT CATALEPSY INDUCED BY DIENCEPHALIC LESION. PHARMACOLOGY. 105118 13-03

## Psychopharmacology Abstracts

- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC DRUG OXYPROTHEPIN. II. INFLUENCE ON BEHAVIOR IN RATS. 105838 13-04
- THE INFLUENCE OF ANTICHOLINERGIC HALLUCINOGENS ON SPONTANEOUS AND CONDITIONED BEHAVIOUR IN RATS. 105994 13-04
- THE EFFECT OF PYRITHOXINE (ENCEPHALOL) ON BEHAVIOUR OF RATS, MALNOURISHED IN EARLY LIFE. 105999 13-14
- THE COMPARISON OF THE EFFECTS OF ATROPINE AND BENACTYZINE ON SOME STRUCTURES OF LIMBIC SYSTEM OF THE RATS. 106092 13-03
- THE EFFECT OF AMITRIPTYLINE ON THE BEHAVIOUR AND EEG OF RATS AFTER DEPLETION OF SEROTONIN BY PARA-CHLOROPHENYLAMINE. 106093 13-03
- DISSOCIATION BETWEEN EEG AND SPONTANEOUS BEHAVIOUR OF RATS AFTER ATROPINE. 106094 13-03
- TRYPTOPHAN PYRROLASE ACTIVITY AFTER CHRONIC ADMINISTRATION OF RESERPINE AND APOMORPHINE IN RATS. 106096 13-03
- THE EFFECTS OF TWO TETRAHYDROCANNABINOLS, (DELTA9-THC AND DELTA8-THC) ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS. 106393 13-04
- TWENTY-FOUR-HOUR PROACTIVE FACILITATION OF AVOIDANCE AND DISCRIMINATION LEARNING IN RATS BY D-AMPHETAMINE. 106786 13-04
- THE EFFECT OF DIETHYLDITHIOCARBAMATE ON AMPHETAMINE INDUCED BEHAVIOR IN RATS. 106910 13-04
- EXPERIMENTS WITH UCB-6215, A DRUG WHICH ENHANCES ACQUISITION IN RATS: ITS EFFECTS COMPARED WITH THOSE OF METHAMPHETAMINE. 107159 13-04
- FACILITATORY EFFECTS OF AMPHETAMINE ON LEARNING AND RECALL OF AN AVOIDANCE RESPONSE IN RATS. 107943 13-04
- EFFECT OF DIPHENYLHYDANTOIN ON HEXOBARBITAL SLEEP TIME IN MICE AND RATS. 107944 13-03
- THE EFFECTS OF SOME HALLUCINOGENS ON AGGRESSIVENESS OF MICE AND RATS, PART I. 108032 13-04
- EFFECT OF SOME AMPHETAMINE ANALOGUES ON ALPHA-METHYL-P-TYROSINE INDUCED CATALEPSY IN RATS. 108797 13-03
- THE DELAY OF THE BEHAVIORAL EFFECTS OF DELTA9-TETRAHYDROCANNABINOL IN RATS BY 2-DIETHYLAMINOETHYL 2,2-DIPHENYLVALERATE HCL (SKF-525A). 109030 13-03
- ROLE OF CENTRAL SEROTONINERGIC PROCESSES IN DEVELOPMENT OF HEAD TWITCHES IN MICE AND RATS UNDER THE INFLUENCE OF TRYPTOPHAN. 109920 13-02
- EXTINCTION OF OPERANT RESPONSES BY RATS UNDER THE EFFECTS OF CANNABIS-SATIVA EXTRACT. 110036 13-04
- EXTINCTION OF FEAR II: EFFECTS OF CHLORDIAZEPOXIDE AND CHLORPROMAZINE ON FEAR AND EXPLORATORY BEHAVIOUR IN RATS. 110177 13-04
- ACQUISITION OF CONDITIONED AVOIDANCE RESPONSE IN RATS UNDER THE INFLUENCE OF ADDICTING DRUGS. 110182 13-04
- THE EFFECTS OF CHRONIC ADMINISTRATION OF ETHANOL ON STARTLE THRESHOLDS IN RATS. 110205 13-04
- TWO-WAY (SHUTTLE-BOX) AVOIDANCE IN RATS AFTER PARA-OXON TREATMENT. 110493 13-04
- STRUCTURE OF THE NEURON AND INTERNEURON LINKS IN THE BRAIN OF RATS UNDER THE EFFECT OF CAFFEINE AND PHENAMINE. 111137 13-03
- RUBIDIUM INDUCED INCREASE IN SHOCK ELICITED AGGRESSION IN RATS. 111144 13-04
- THE EFFECTS OF MALOXONE, CHLORPROMAZINE, AND HALOPERIDOL PRETREATMENT ON LEVALLORPHAN INDUCED DISRUPTION OF RATS OPERANT BEHAVIOR. 111145 13-04
- COMPARATIVE STUDY OF THE EFFECT OF TRICYCLIC ANTIDEPRESSANTS ON THE SELF-STIMULATION REACTION OF THE BRAIN IN RATS. 111292 13-03
- ON THE SELECTIVE EFFECT OF THE NEW ANTIDEPRESSANT FLUORACIZINE ON THE ACTIVITY OF PYRIDINE DEHYDROGENASES IN THE BRAIN OF RATS. 111703 13-03

- PARADOXICAL EFFECTS OF LOW DOSES OF D-AMPHETAMINE IN RATS.  
112315 13-04
- EFFECT OF AZAPHEN ON THE CONDITIONED AVOIDANCE REFLEX IN RATS.  
113518 13-04
- EFFECT OF CHLORPROMAZINE AND PHENAMINE ON THE BASAL  
METABOLISM AND CONDITIONED REFLEX ACTIVITY IN RATS UNDER  
STRESS CONDITIONS.  
113521 13-03
- CHANGES IN THE ACTIVITY OF OXIDATIVE ENZYMES IN THE BRAIN OF  
RATS UNDER THE EFFECT OF TRIFLUOPERAZINE (STELAZINE).  
113522 13-03
- ON THE FUNCTIONAL RELATIONSHIP BETWEEN PHYSIOLOGICAL AND  
PENTETRAZOL INDUCED RHYTHMIC ACTIVITY IN THE EEG OF  
UNRESTRAINED RATS.  
113567 13-03
- ETHANOL METABOLISM IN RATS TREATED WITH ETHYL-ALPHA-P-  
CHLOROPHENOXYISOBUTYRATE (CLOFIBRATE).  
115044 13-03
- INTRACEREBRAL LESIONS CAUSING STEREOTYPED BEHAVIOUR IN RATS.  
117681 13-03
- EFFECTS OF DRUG STATE CHANGES UPON TWO-WAY SHUTTLE  
AVOIDANCE RESPONSES IN RATS, TREATED WITH CHLORDIAZEPOXIDE  
OR PLACEBO.  
117747 13-04
- BEHAVIOURAL AND BIOCHEMICAL EFFECTS OF L-DOPA AFTER INHIBITION  
OF DOPAMINE-BETA-HYDROXYLASE IN RESERPINE PRETREATED RATS.  
119552 13-03
- DAILY RHYTHMIC VARIATION AND LIVER DRUG METABOLISM IN RATS.  
120467 13-03
- EFFECTS OF STRYCHNINE DURING DIFFERENT PERIODS OF DEVELOPMENT  
ON MAZE LEARNING IN ADULT RATS.  
120961 13-03
- THE INFLUENCE OF SUBCHRONIC TETRAHYDROCANNABINOL AND  
CANNABIS TREATMENT ON FOOD AND WATER INTAKE, BODY WEIGHT  
AND BODY TEMPERATURE OF RATS.  
123267 13-03
- ACCUMULATION OF METABOLITES DURING CHRONIC APPLICATION OF  
THE NEUROLEPTIC DRUG PERAZINE TO RATS.  
123268 13-03
- BEHAVIOURAL EFFECT OF AMANTADINE IN RATS AFTER INHIBITION OF  
MONOAMINE SYNTHESIS, STORAGE AND RECEPTOR INTERACTION.  
123277 13-03
- INVESTIGATIONS ON THE ELECTROLYTE CONTENTS OF ANATOMICALLY  
DEFINED PARTS OF THE BRAIN IN NORMAL AND LITHIUM - TREATED  
RATS.  
123279 13-03
- DISTRIBUTION OF ELECTROLYTES WITHIN THE BRAIN OF LITHIUM  
TREATED RATS.  
123289 13-03
- EFFECTS OF TERTIARY VS QUATERNARY SCOPOLAMINE ON WATER AND  
AIR DRINKING IN RATS.  
123639 13-04
- THE INFLUENCE OF HARMINE ON BIOELECTRIC ACTIVITY IN CEREBRAL  
ISOLE RATS.  
125071 13-03
- LORDOSIS BEHAVIOR IN MALE RATS TREATED WITH ESTROGEN IN  
COMBINATION WITH TETRABENAZINE AND NIALAMIDE.  
125165 13-04
- A MECHANISM FOR THE DEVELOPMENT OF TOLERANCE TO  
AMPHETAMINE IN RATS.  
125166 13-03
- CLIFF JUMPING IN RATS AFTER INTRAVENOUS TREATMENT WITH  
APOMORPHINE.  
125167 13-04
- CHANGES IN A HEXOBARBITAL ANESTHESIA THRESHOLD IN RATS  
INDUCED BY REPEATED LONG-TERM TREATMENT WITH BARBITAL OR  
ETHANOL.  
125248 13-03
- A METHOD FOR STUDYING THE INFLUENCES OF DRUGS ON LEARNING  
FOR FOOD REWARDS IN RATS.  
125249 13-06
- EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CANNABIS-  
SATIVA AND (-)-DELTA9-TRANS-TETRAHYDROCANNABINOL ON THE  
BEHAVIOR OF RATS IN AN OPEN-FIELD ARENA.  
125251 13-04
- EFFECTS OF DRUG STATE CHANGES UPON BLACK WHITE  
DISCRIMINATION LEARNING IN RATS.  
125253 13-04
- EFFECT OF RESERPINE ON PLASMA LH LEVELS IN OVARECTOMIZED AND  
CYCLING PROESTRUS RATS.  
125330 13-03
- RCPV  
CHOLINERGIC MECHANISM DETERMINES THE OCCURRENCE OF REWARD  
CONTINGENT POSITIVE VARIATION (RCPV) IN CAT.  
088543 13-03

## REACTING

- ELECTROCLINICAL STUDY OF A CASE OF NEUROMYOTONIA WITH  
MYOKYMIA, REACTING FAVORABLY TO CARBAMAZEPINE TREATMENT.  
121796 13-13

## REACTION

- ALCOHOL DEPENDENCE PRODUCED IN MICE BY INHALATION OF  
ETHANOL: GRADING THE WITHDRAWAL REACTION.  
082827 13-03
- AN ADVERSE REACTION UNIT: RESULTS AND FUNCTIONS.  
085460 13-15
- THE EFFECTS OF A TRANQUILIZER ON THE IMMOBILITY REACTION IN  
CHICKENS; ADDITIONAL SUPPORT FOR THE FEAR HYPOTHESIS.  
088069 13-04
- IATROGENIC PSYCHOTIC DEPRESSIVE REACTION IN HYPERTENSIVE  
PATIENTS.  
088147 13-15
- THE PREPARATION OF 6 SUBSTITUTED PTERINS VIA THE ISAY REACTION  
(UNPUBLISHED PAPER).  
092896 13-01
- REACTION TIME IN PSYCHIATRIC PATIENTS: PILOT STUDY.  
095621 13-15
- REACTION TO FLURAZEPAM.  
102534 13-15
- CITRATED CALCIUM CARBIMIDE/ALCOHOL REACTION - ITS SEVERITY  
AND EFFECTIVENESS AS A DETERRENT.  
103099 13-11
- THE EFFECTS OF NITROUS OXIDE ON THE AUDITORY EVOKED RESPONSE  
IN A REACTION TIME TASK.  
105011 13-14
- ON THE REACTION OF FERTILIZED ECHINODERM EGGS TO  
NEUROPHARMACOLOGICAL DRUGS.  
105726 13-03
- DIFFERENT REACTION OF FOCAL AND DIFFUSE EPILEPTIC EEG ACTIVITY  
TO PSILOCYBIN.  
106001 13-13
- COMPARATIVE STUDY OF THE EFFECT OF TRICYCLIC ANTIDEPRESSANTS  
ON THE SELF-STIMULATION REACTION OF THE BRAIN IN RATS.  
111292 13-03
- THE INFLUENCE OF PSYCHOPHARMACOLOGICALLY ACTIVE SUBSTANCES  
ON VARIOUS MODELS OF AN INFLAMMATORY REACTION.  
118201 13-05
- A PSYCHODERMATOLOGICAL STUDY OF A COMBINATION OF TWO  
COMPOUNDS RESULTING IN A MIXED REACTION, ANTIDEPRESSIVE  
AND TRANQUILIZING (AMITRIPTYLINE - PERPHENAZINE).  
121753 13-07
- NEAR FATAL REACTION TO INGESTION OF THE HALLUCINOGENIC DRUG  
MDA.  
125427 13-15

## REACTIONS

- PRODUCTION OF LOCAL ANAPHYLACTIC REACTIONS AS AN ATTEMPT TO  
TREAT DEPRESSIVE PSYCHOSES.  
087035 13-07
- ADVERSE REACTIONS DURING TREATMENT OF PARKINSONS DISEASE  
WITH LEVODOPA.  
095426 13-15
- AGGRESSION AND FLIGHT REACTIONS INDUCED BY CONTINUOUS  
INCREASE OF BLOOD OSMOLALITY.  
098300 13-04
- ACUTE ADVERSE REACTIONS TO LSD IN CLINICAL AND EXPERIMENTAL  
USE IN THE UNITED KINGDOM.  
099307 13-12
- REACTIONS OF MALE FIGHTERS TO MALE AND FEMALE MICE,  
UNTREATED OR DEODORIZED.  
101738 13-04
- ADVERSE REACTIONS AND THE SPECIFICITY OF ANTIDEPRESSANT DRUG  
EFFECTS.  
105277 13-15

## REACTIVATORS

- USE OF ONE OF THE CHOLINESTERASE REACTIVATORS, DIPYROXIME, FOR  
TREATMENT OF MENTAL PATIENTS.  
113748 13-14

## REACTIVITY

- DIFFERENCES AMONG AGE AND SEX GROUPS WITH RESPECT TO  
CARDIOVASCULAR CONDITIONING AND REACTIVITY. (UNPUBLISHED  
PAPER).  
082516 13-13
- BRAIN EXCITABILITY AND BEHAVIORAL REACTIVITY IN MONKEYS UNDER  
MEPROBAMATE.  
106145 13-04
- CHANGES IN THE REACTIVITY OF NEURONS OF THE PROJECTION CORTEX  
UNDER THE EFFECT OF NEMBUTAL.  
111816 13-03

## READAPTATION

- PSYCHOTROPIC DRUGS OF PROLONGED EFFECT IN REHABILITATION AND  
READAPTATION OF SCHIZOPHRENIC PATIENTS.  
111738 13-08

## Subject Index

- READERS**  
MEGAVITAMIN THERAPY - A READERS VIEW. 109399 13-08
- READMISSION**  
THE CONTRIBUTION OF FLUPHENAZINE ENANTHATE AND DECANOATE IN THE PREVENTION OF READMISSION OF SCHIZOPHRENIC PATIENTS. 115399 13-08
- REALIST**  
MARIJUANA: A REALIST APPROACH. 082713 13-17
- REBOUND**  
REBOUND FROM D-AMPHETAMINE. 111207 13-14
- RECALL**  
FACILITATORY EFFECTS OF AMPHETAMINE ON LEARNING AND RECALL OF AN AVOIDANCE RESPONSE IN RATS. 107943 13-04
- RECEIVING**  
PLASMA MONOAMINE OXIDASE ACTIVITY IN REGULARLY MENSTRUATING WOMEN AND IN AMENORRHEIC WOMEN RECEIVING CYCLIC TREATMENT WITH ESTROGENS AND A PROGESTIN. 104616 13-13  
SERUM FOLIC ACID AND PHENYTOIN LEVELS IN PERMANENTLY HOSPITALIZED EPILEPTIC PATIENTS RECEIVING ANTICONVULSANT DRUG THERAPY. 108727 13-15
- RECEPTIVITY**  
NEONATAL ADMINISTRATION OF ANDROSTENEDIONE, TESTOSTERONE OR TESTOSTERONE PROPIONATE: EFFECTS ON OVULATION, SEXUAL RECEPTIVITY AND AGGRESSIVE BEHAVIOR IN FEMALE MICE. 088581 13-04
- RECEPTOR**  
RECEPTOR DUALISM: SOME KINETIC IMPLICATIONS. (UNPUBLISHED PAPER). 107885 13-16  
THE INFLUENCE OF ADRENERGIC RECEPTOR BLOCKING AGENTS, AMPHETAMINE, AND 6-AMINONICOTINAMIDE ON THERMOREGULATION. 119553 13-03  
STRUCTURE-ACTIVITY STUDIES ON A 5-HYDROXYTRYPTAMINE RECEPTOR OF HELIX-ASPERSA NEVRONES. 120408 13-03  
EVIDENCE FOR A NEW TYPE OF DOPAMINE RECEPTOR STIMULATING AGENT. 122547 13-03  
BEHAVIOURAL EFFECT OF AMANTADINE IN RATS AFTER INHIBITION OF MONOAMINE SYNTHESIS, STORAGE AND RECEPTOR INTERACTION. 123277 13-03
- RECEPTORS**  
INSULIN RECEPTORS IN THE LIVER: SPECIFIC BINDING OF 125I INSULIN TO THE PLASMA MEMBRANE AND ITS RELATION TO INSULIN BIOACTIVITY (UNPUBLISHED PAPER). 092377 13-03  
BEHAVIORAL EVIDENCE FOR TWO TYPES OF CHOLINERGIC RECEPTORS IN THE CNS. 099646 13-04  
INHIBITION OF D-AMPHETAMINE HYPERTHERMIA BY BLOCKADE OF DOPAMINE RECEPTORS IN RABBITS. 105404 13-03  
SUPERSENSITIVITY OF CENTRAL NORADRENALINE RECEPTORS AFTER RESERPINE. 125409 13-03
- RECOGNIZES**  
MCGILL RECOGNIZES SPECIALITY OF PSYCHOPHARMACOLOGY BY ESTABLISHING NEW DEPARTMENT. 078127 13-17
- RECORDING**  
THE ELECTROENCEPHALOGRAPHIC RECORDING OF SHORT-TERM AND LONG-TERM LITHIUM EFFECT. 104441 13-13
- RECOVERED**  
EXPERIMENTAL WITHDRAWAL OF LITHIUM IN RECOVERED MANIC-DEPRESSIVE PATIENTS: A REPORT OF FIVE CASES. 092514 13-09
- RECOVERY**  
CORRELATION OF THE RECOVERY OF THE GRANULAR UPTAKE STORAGE MECHANISM AND THE NERVE IMPULSE INDUCED RELEASE OF (3H)NORADRENALINE AFTER RESERPINE. 120619 13-03
- RECURRENT**  
A CASE WITH GILLES-DE-LA-TOURETTES SYNDROME, RECURRENT REFRACTORYNESS TO HALOPERIDOL AND UNSUCCESSFUL TREATMENT WITH L-DOPA. 085013 13-10  
EXPERIENCE WITH LITHIUM PROPHYLAXIS OF RECURRENT EMOTIONAL DISORDERS IN A PSYCHIATRIC OUTPATIENTS CLINIC. 089129 13-17

## Psychopharmacology Abstracts

- LITHIUM PROPHYLAXIS IN MANIC-DEPRESSIVE PSYCHOSIS AND IN RECURRENT ENDOGENOUS DEPRESSIONS. 103320 13-09
- VITAMIN-E INEFFECTIVE IN RECURRENT PSYCHOSIS. 104638 13-09
- RED**  
RED NUCLEUS FAST ACTIVITY AND SIGNS OF PARADOXICAL SLEEP APPEARING DURING THE EXTINCTION OF EXPERIMENTAL SEIZURES. 098151 13-03  
EFFECT OF PHENAMINE INDUCED INSOMNIA AND OF SUBSEQUENT SLEEP ON PROTEIN CONTENT IN THE NEURONS AND GLIAL CELLS OF THE SUPRAOPTIC AND RED NUCLEI OF THE BRAIN. 111831 13-03
- REDUCED**  
PROTEIN METABOLISM AND AMINO ACID ACCUMULATION IN THE RAT SUBMAXILLARY GLAND DURING REDUCED SYMPATHETIC ACTIVITY. 087123 13-03  
EFFECT OF REDUCED BAROMETRIC PRESSURE ON DRUG ACTION AND METABOLISM IN MICE. 118568 13-03
- REDUCING**  
REDUCING NIGHT SEDATION IN PSYCHOGERIATRIC WARDS. 110156 13-17
- REDUCTASE**  
AMPHETAMINE TETRAZOLIUM REDUCTASE ACTIVITY IN BRAIN. 125411 13-03
- REDUCTION**  
MEDICATION, ANXIETY REDUCTION AND PATIENT REPORT OF SIGNIFICANT LIFE SITUATION EVENTS. 092456 13-10  
STIMULUS CONTROL DURING CHRONIC REDUCTION OF CHOLINESTERASE ACTIVITY. 102095 13-04  
REDUCTION OF CATECHOL-O-METHYLTRANSFERASE ACTIVITY BY CHRONIC L-DOPA THERAPY. 107995 13-15  
REDUCTION OF HISTAMINE IN MOUSE BRAIN BY NL (DL-SERYL)-N2-(2,3,4 TRIHYDROXYBENZYL) HYDRAZINE AND RESERPINE. 122546 13-03  
EFFECTS OF CHLORDIAZEPoxide ON DEPRESSED PERFORMANCE AFTER REWARD REDUCTION. 125164 13-04
- REEVALUATION**  
AN UNUSUAL REEVALUATION OF MARSILID AS AN ANTIDEPRESSANT. 089002 13-09  
A REEVALUATION OF CINNARIZINE WITH GERIATRIC INPATIENTS. 098229 13-14
- REFLEX**  
EFFECT OF POST-TRIAL INJECTION OF BETA ADRENERGIC BLOCKING AGENTS ON A CONDITIONED REFLEX IN RATS. 104577 13-04  
EFFECT OF AZAPHEN ON THE CONDITIONED AVOIDANCE REFLEX IN RATS. 113518 13-04  
EFFECT OF CHLORPROMAZINE AND PHENAMINE ON THE BASAL METABOLISM AND CONDITIONED REFLEX ACTIVITY IN RATS UNDER STRESS CONDITIONS. 113521 13-03  
EFFECT OF TRIPHASINE ON CONDITIONED REFLEX PROCESSES ACCORDING TO PARAMETERS OF EVOKED POTENTIALS. 113749 13-04  
EFFECTS OF SOME NARCOTIC ANALGESICS AND RELATED COMPOUNDS UPON THE EXTENSOR MONOSYNAPTIC REFLEX INHIBITION FROM CUTANEOUS NERVE AND HIGH THRESHOLD MUSCLE AFFERENTS. 125324 13-03  
EFFECTS OF SOME NARCOTIC ANALGESICS UPON THE MONOSYNAPTIC REFLEX INHIBITION FROM MUSCULAR AND CUTANEOUS AFFERENTS IN SPINAL CORD OF THE CAT. 125327 13-03
- REFLEXES**  
THE INVOLVEMENT OF CENTRAL CHOLINERGIC MECHANISMS IN THE FORMATION AND INHIBITION OF CONDITIONAL REFLEXES IN RATS. 098295 13-04  
THE EFFECT OF CHLORPROTHIXENE AND CAFFEINE ON THE CONDITIONED ALIMENTARY MOTOR REFLEXES IN CATS. 106002 13-04  
THE ROLE OF CENTRAL M-CHOLINERGIC SYSTEMS IN THE DEVELOPMENT OF FOOD MOTOR CONDITIONED REFLEXES. 107719 13-03  
EFFECT OF ANTICHOLINESTERASE SUBSTANCES ON CHANGES OF CONDITIONED REFLEXES INDUCED BY CHLORPROMAZINE. 111133 13-04  
EFFECT OF PUROMYCIN AND ACTINOMYCIN-D INJECTION INTO THE MESENCEPHALIC RETICULAR FORMATION ON THE CONDITIONED REFLEXES OF ANIMALS. 113758 13-04

**REFRACTORYNESS**

A CASE WITH GILLES-DE-LA-TOURETTES SYNDROME: RECURRENT REFRACTORYNESS TO HALOPERIDOL AND UNSUCCESSFUL TREATMENT WITH L-DOPA.

085013 13-10

**REGENERATED**

TEMPORAL EFFECTS OF RNASE AND DNASE IN DISRUPTING ACQUIRED ESCAPE BEHAVIOR IN REGENERATED PLANARIA.

079423 13-04

**REGIMENS**

PROLIXIN ENANTHATE AND THORAZINE STELAZINE REGIMENS IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS. AN EXPERIMENTAL EVALUATION.

096017 13-08

**REGIOSELECTIVELY**

THE DEVELOPMENT OF SYNTHETIC TECHNIQUES TO INTRODUCE A FUNCTIONALIZED CARBON SUBSTITUENT REGIOSELECTIVELY INTO THE BENZENE RING OF AN INDOLE NUCLEUS.

112783 13-01

**REGULATING**

THE USE OF MEGAVITAMIN THERAPY IN REGULATING SEVERE BEHAVIOR DISORDERS, DRUG ABUSES AND FRANK PSYCHOSIS.

082735 13-17

SLEEP APNEA AND SLEEP REGULATING MECHANISM: A CASE EFFECTIVELY TREATED WITH MONOCHLORIMIPRAMINE.

111589 13-13

**REGULATION**

THE EFFECTS OF CENTRALLY ADMINISTERED CHLORPROMAZINE ON TEMPERATURE REGULATION IN THE HAMSTER.

089096 13-03

EFFECTS OF INSULIN PREPARATIONS ON TITRATED SUCROSE REGULATION.

104074 13-04

ALTERATIONS IN TREMOR REGULATION AFTER INTRACAUDATE INJECTIONS OF CALCIUM IONS OR DISODIUM EDETATE.

122541 13-03

**REGULATORY**

DOPAMINE NOREPINEPHRINE: ANOTHER REGULATORY STEP OF NOREPINEPHRINE SYNTHESIS IN CENTRAL NORADRENERGIC NEURONS.

082825 13-03

**REHABILITATION**

PSYCHOTROPIC DRUGS OF PROLONGED EFFECT IN REHABILITATION AND READAPTATION OF SCHIZOPHRENIC PATIENTS.

111738 13-08

PERCUTANEOUS DEXAMETHASONE AND FUNCTIONAL REHABILITATION IN NEUROLOGICAL DISORDERS.

122393 13-11

**REINFORCED**

RHE EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CHLORPROMAZINE ON THE ACQUISITION AND EXTINCTION OF POSITIVELY REINFORCED OPERANT RESPONSES.

088679 13-04

ANALYSIS OF THE ACQUISITION AND EXTINCTION OF FOOD REINFORCED BEHAVIOR IN RATS AFTER THE ADMINISTRATION OF CHLORPROMAZINE.

105012 13-04

**REINFORCEMENT**

AMOBARBITAL VS SALINE EXTINCTION FOLLOWING DIFFERENT MAGNITUDES OF CONSISTENT REINFORCEMENT.

078449 13-04

AMYTAL AND THE SMALL TRIAL PARTIAL REINFORCEMENT EFFECT: STIMULUS PROPERTIES OF EARLY TRIAL NONREWARDS.

078938 13-04

A BARBITURATE LIKE EFFECT OF ADRENOCORTICOTROPIC HORMONE ON THE PARTIAL REINFORCEMENT ACQUISITION AND EXTINCTION EFFECTS.

082858 13-04

SODIUM AMYLOBARBITONE, THE PARTIAL REINFORCEMENT EXTINCTION EFFECT, AND THE FRUSTRATION EFFECT IN THE DOUBLE RUNWAY.

082859 13-04

AMOBARBITAL AND THE PARTIAL REINFORCEMENT EFFECT IN RATS: ISOLATING FRUSTRATIVE CONTROL OVER INSTRUMENTAL RESPONDING.

097414 13-14

EFFECTS OF CYPRENORPHINE HYDROCHLORIDE ON SENSORY REINFORCEMENT IN THE RAT.

099685 13-04

TIME DEPENDENT MEMORY DEFICITS PRODUCED BY PENTYLENETETRAZOL (METRAZOL) - THE EFFECT OF REINFORCEMENT MAGNITUDE.

102305 13-04

THE EFFECTS OF ATROPINE ON HABITUATION IN A LIGHT REINFORCEMENT SITUATION.

104576 13-04

EFFECTS OF LSD ON TIME BASED SCHEDULES OF REINFORCEMENT.

110190 13-04

**REINVESTIGATION**

REINVESTIGATION OF THE EFFECTS OF GAMMA-HYDROXYBUTYRATE ON THE SLEEP CYCLE OF THE UNRESTRAINED INTACT CAT.

109621 13-03

**REJECTION**

PATIENT REJECTION OF LITHIUM CARBONATE PROPHYLAXIS.

102105 13-09

**RELATIVES**

GENETIC CONTROL OF NORTRIPTYLINE KINETICS IN MAN - A STUDY OF RELATIVES OF PROPOSITI WITH HIGH PLASMA CONCENTRATION.

122578 13-13

**RELAXATION**

TREATMENT OF PHOBIC ANXIETY AND PSYCHOGENIC IMPOTENCE BY SYSTEMATIC DESENSITIZATION EMPLOYING METHOHEXITONE INDUCED RELAXATION.

099320 13-10

RELAXATION TRANSFER IN ELECTRODERMAL ACTIVITY AS AFFECTED BY A NEW MINOR TRANQUILIZER (4306CB).

105006 13-14

**RELEARNING**

RELEARNING AT DIFFERENT TIMES AFTER TRAINING AS AFFECTED BY CENTRALLY AND PERIPHERALLY ACTING CHOLINERGIC DRUGS IN THE MOUSE.

097739 13-04

**RELEASE**

EFFECT OF LITHIUM ON THE RELEASE OF 14C-NOREPINEPHRINE BY NERVE STIMULATION FROM THE PERFUSED CAT SPLEEN.

077989 13-03

MICROIONTOPHORETIC RELEASE OF NOREPINEPHRINE FROM MICROPIPETTES.

082862 13-06

COMPARATIVE EFFECTS OF P-CHLOROAMPHETAMINE AND AMPHETAMINE ON METABOLISM AND IN VIVO RELEASE OF 3H-NOREPINEPHRINE IN THE HYPOTHALAMUS.

086814 13-03

EFFECT OF N,N DIMETHYLTRYPTAMINE AND D-LYSERGIC ACID DIETHYLAMIDE ON THE RELEASE OF 5-HYDROXYINDOLES IN RAT FOREBRAIN.

095366 13-03

CHLORPROMAZINE INDUCED HISTAMINE RELEASE AND LIPOLYSIS IN CANINE ADIPOSE TISSUE IN SITU.

099647 13-03

METHAMPHETAMINE INDUCED INSULIN RELEASE.

099827 13-03

SIDE-EFFECTS OF A SUSTAINED RELEASE LITHIUM PREPARATION.

101409 13-15

EFFECTS OF NARCOTIC ANALGESICS AND ANTAGONISTS ON THE IN VIVO RELEASE OF ACETYLCHOLINE FROM THE CEREBRAL CORTEX OF THE CAT.

104537 13-03

EFFECT OF AMPHETAMINE ON THE UPTAKE, RELEASE AND EFFECTIVENESS OF XYLOCHOLINE IN THE GUINEA-PIG VAS-DEFERENS.

105411 13-03

IMPORTANCE OF CATECHOLAMINE RELEASE BY NERVE IMPULSES FOR FREE OPERANT BEHAVIOR.

106757 13-04

THE RELEASE OF 3H-DOPAMINE FROM CAT BRAIN FOLLOWING ELECTRICAL STIMULATION OF THE SUBSTANTIA-NIGRA AND CAUDATE NUCLEUS.

107046 13-03

RELEASE OF CATECHOLAMINE FROM THE CAT HEART BY SOME DIRECTLY AND INDIRECTLY ACTING SYMPATHOMIMETIC AMINES.

108288 13-03

RELEASE OF CREATINE PHOSPHOKINASE FROM MUSCLE - 1. EFFECT OF POLYMYXIN B, COMPOUND 48/80, AND SEROTONIN.

108719 13-05

DOPAMINE: RELEASE FROM THE BRAIN IN VIVO BY AMANTADINE.

112064 13-13

EFFECT OF RESERPINE ON RELEASE OF (3H)NORADRENALINE, (3H)DOPAMINE AND (3H)METARAMINOL FROM FIELD STIMULATED RAT IRIS.

118563 13-03

CORRELATION OF THE RECOVERY OF THE GRANULAR UPTAKE STORAGE MECHANISM AND THE NERVE IMPULSE INDUCED RELEASE OF (3H)NORADRENALINE AFTER RESERPINE.

120819 13-03

CLINICAL STUDY OF THE EFFECT OF SUSTAINED RELEASE THIORIDAZINE IN LONG-TERM PSYCHIATRIC HOSPITAL PATIENTS.

121457 13-07

INFLUENCE OF COCAINE AND PHENOXYBENZAMINE ON NORADRENALINE UPTAKE AND RELEASE.

125959 13-03

**RELIABLE**

A SIMPLE AND RELIABLE CONFLICT PROCEDURE FOR TESTING ANTIANXIETY AGENTS.

124108 13-04

## Subject Index

- RELIEF**  
COMPARATIVE EVALUATION OF DIAZEPAM (VALIUM) AND PHENOBARBITAL FOR THE RELIEF OF ANXIETY RELATED SYMPTOMS IN PATIENTS HOSPITALIZED FOR ACUTE MYOCARDIAL INFARCTION. 100626 13-14
- REM**  
CHANGES IN REM SLEEP OF CHRONIC ANXIOUS DEPRESSED PATIENTS GIVEN ALPHA-METHYL-P-TYROSINE (UNPUBLISHED PAPER). 093260 13-10  
BRAIN NOREPINEPHRINE AND SEROTONIN LEVELS FOLLOWING REM SLEEP DEPRIVATION IN THE RAT. 106492 13-03
- REMISSION**  
INFLUENCE OF ACTIVE BIOLOGICAL TREATMENT ON THE TIME OF DURATION OF REMISSION IN MANIC-DEPRESSIVE PSYCHOSIS. 122942 13-09
- RENAL**  
RENAL LITHIUM ELIMINATION IN MANIC-DEPRESSIVE PATIENTS - INITIAL EXCRETION AND CLEARANCE. 087000 13-13  
EFFECTS OF ACTH ON VOLES (MICROTUS-PENNSYLVANICUS) RELATED TO REPRODUCTIVE FUNCTION AND RENAL DISEASE. 089016 13-03  
RENAL FUNCTIONAL DAMAGE DURING THE COURSE OF LITHIUM THERAPY: A CASE REPORT WITH RENAL BIOPSY FINDINGS. 100206 13-15  
EFFECT OF CHLORPROMAZINE ON RENAL FUNCTION. 111129 13-05
- REPARTITION**  
IMIPRAMINE TISSUE REPARTITION BREAKDOWN IN MAN AS RELATED TO SIX CASES OF FATAL INTOXICATION. 100406 13-15
- REPEATED**  
BIOSYNTHESIS OF ADRENAL CATECHOLAMINES DURING ADAPTATION TO REPEATED IMMOBILIZATION STRESS (UNPUBLISHED PAPER). 093553 13-03  
THE BEHAVIOURAL EFFECTS OF LEVALLORPHAN, CYPRENORPHINE (M-285) AND AMPHETAMINE ON REPEATED Y-MAZE PERFORMANCE IN RATS. 102190 13-04  
INDUCTION OF BIZARRE BEHAVIOUR IN RATS BY P-CHLOROAMPHETAMINE, A SEROTONIN DEPLETOR, AFTER REPEATED DRUG ADMINISTRATION. 104793 13-04  
REPEATED EPISODES OF PHENMETRAZINE PSYCHOSIS. 105894 13-15  
CHANGES IN A HEXOBARBITAL ANESTHESIA THRESHOLD IN RATS INDUCED BY REPEATED LONG-TERM TREATMENT WITH BARBITAL OR ETHANOL. 125248 13-03
- REPETITIVE**  
EVOKED POTENTIAL AND SINGLE UNIT STUDIES OF NEURAL MECHANISMS UNDERLYING THE EFFECTS OF REPETITIVE STIMULATION IN THE AUDITORY PATHWAY. 108671 13-03
- REPLACEMENT**  
REPLACEMENT OF PROGESTERONE WITH A PHENOTHIAZINE IN THE INDUCTION OF MATERNAL BEHAVIOR IN THE OVARECTOMIZED NULLIPAROUS RAT. 095383 13-04
- REPRODUCTIVE**  
EFFECTS OF ACTH ON VOLES (MICROTUS-PENNSYLVANICUS) RELATED TO REPRODUCTIVE FUNCTION AND RENAL DISEASE. 089016 13-03
- RESEARCH**  
BEHAVIORAL RESEARCH AND EXPERIMENTAL PSYCHOSIS. 083378 13-12  
THE PSYCHOPHARMACOLOGY OF DEPRESSION: PERSPECTIVES IN RESEARCH. 091119 13-10  
NEUROPSYCHOPATHOLOGY RESEARCH GROUP: LABORATORY OF COMPARATIVE NEUROPSYCHOPATHOLOGY. 092317 13-04  
NEW RESEARCH ON CANNABIS. 093579 13-17  
BIOCHEMICAL RESEARCH IN SCHIZOPHRENIA. 095478 13-08  
SOME REFLECTIONS ON THE METHODOLOGY OF CLINICAL PSYCHOPHARMACOLOGICAL RESEARCH. 098734 13-16  
SOME ASPECTS OF OUR RESEARCH STUDIES ON SCHIZOPHRENIA. 098978 13-08  
COMPARISON OF THIORIDAZINE AND CHLORPROMAZINE IN DOCTORS CHOICE RESEARCH DESIGN. 100438 13-16  
PROGRESS IN DRUG RESEARCH. 111877 13-17

## Psychopharmacology Abstracts

- A WORKING MODEL OF CLINICAL RESEARCH IN PRIVATE PRACTICE. 121476 13-11  
THE NIMH BIOMEDICAL PROGRAM OF MARIJUANA RESEARCH. (UNPUBLISHED PAPER). 126570 13-17
- RESERPINE**  
COPULATORY BEHAVIOR OF MALE RATS FOLLOWING RESERPINE ADMINISTRATION. 073485 13-04  
RESERPINE AND ACETAZOLAMIDE IN MAXIMUM ELECTROSHOCK SEIZURE IN THE RAT. 082880 13-03  
ON THE MODE OF ACTION OF RESERPINE ON DOPAMINE METABOLISM IN THE RAT STRIATUM. 083162 13-03  
EFFECTS OF MONOAMINE OXIDASE INHIBITORS AND RESERPINE ON BRAIN AMINES IN ALTITUDE EXPOSED RATS. 085727 13-13  
FURTHER STUDIES ON THE NATURE OF PERSISTENT RESERPINE BINDING: EVIDENCE FOR REVERSIBLE AND IRREVERSIBLE BINDING. 086820 13-03  
DOPA REVERSAL OF RESERPINE ENHANCEMENT OF AUDIOGENIC SEIZURE SUCCEPTIBILITY IN MICE. 088577 13-03  
THE EFFECT OF 5-HYDROXYTRYPTOPHAN AND RESERPINE ADMINISTRATION ON THE LEVEL OF SODIUM, POTASSIUM, CALCIUM, MAGNESIUM AND CHLORIDE IN FIVE DISCRETE AREAS OF THE RABBIT BRAIN. 088665 13-03  
THE INFLUENCE OF PHENELZINE ON THE TOXICITY OF CHOLINERGIC DRUGS MODIFIED BY RESERPINE. 098294 13-05  
EFFECTS OF LONG-TERM RESERPINE TREATMENT ON BRAIN TYROSINE HYDROXYLASE AND BEHAVIORAL ACTIVITY. 101718 13-04  
RESERPINE THERAPY OF PHENOTHIAZINE INDUCED DYSKINESIA. 103917 13-11  
RESERPINE AND SLEEP. 104828 13-14  
REGIONAL DISTRIBUTION OF PERSISTENTLY BOUND RESERPINE IN RAT BRAIN. 105704 13-03  
THE EFFECT OF RESERPINE AND NORTRIPTYLINE ON THE EXCRETION OF 17-HYDROXYSTEROIDS. 106095 13-13  
TRYPTOPHAN PYRROLASE ACTIVITY AFTER CHRONIC ADMINISTRATION OF RESERPINE AND APOMORPHINE IN RATS. 106096 13-03  
FAILURE TO AFFECT TISSUE RESERPINE CONCENTRATIONS BY ALTERATION OF ADRENERGIC NERVE ACTIVITY. 108399 13-03  
EFFECTS OF RESERPINE ON THE SOCIAL BEHAVIOR OF RHESUS MONKEYS. 108699 13-04  
EFFECTS OF METHYLERGIDE ON PLATELETS INCUBATED WITH RESERPINE. 109195 13-03  
PRELIMINARY REPORT ON THE INCORPORATION OF GUANETHIDINE AND RESERPINE INTO RAT PERITONEAL MAST CELLS IN VITRO. 111073 13-03  
EFFECT OF RESERPINE ON THE HYPOTHALAMONEUROHYPHYSAL NEUROSECRETORY SYSTEM. 111130 13-03  
PARTIAL ANTAGONISM BY EXOGENOUS CALCIUM OF THE DEPRESSANT EFFECT OF RESERPINE IN RAT SHUTTLE-BOX BEHAVIOR. 117580 13-03  
EFFECT OF RESERPINE ON RELEASE OF (3H)NORADRENALINE, (3H)DOPAMINE AND (3H)METARAMINOL FROM FIELD STIMULATED RAT IRIS. 118563 13-03  
BEHAVIOURAL AND BIOCHEMICAL EFFECTS OF L-DOPA AFTER INHIBITION OF DOPAMINE-BETA-HYDROXYLASE IN RESERPINE PRETREATED RATS. 119552 13-03  
ADRENERGIC MECHANISMS IN HYPOGLYCEMIC SHOCK IN RABBITS: II. DISORDERS OF ADRENERGIC RESPONSE COMPENSATING HYPOGLYCEMIA IN RABBITS TREATED WITH SMALL DOSES OF RESERPINE. 119648 13-03  
CORRELATION OF THE RECOVERY OF THE GRANULAR UPTAKE STORAGE MECHANISM AND THE NERVE IMPULSE INDUCED RELEASE OF (3H)NORADRENALINE AFTER RESERPINE. 120819 13-03  
ACUTE DIURETIC RESPONSE TO GUANETHIDINE AND RESERPINE. 122536 13-03  
TREMOROGENESIS: EFFECTS OF RESERPINE ON THE SUBSTANTIA-NIGRA. 122537 13-03  
REDUCTION OF HISTAMINE IN MOUSE BRAIN BY NL (DL-SERYL)-N2-(2,3,4 TRIHYDROXYBENZYL) HYDRAZINE AND RESERPINE. 122546 13-03

- PROLONGED EFFECTS OF RESERPINE ADMINISTRATION ON ADRENOCEPTOR ACTIVITY IN DOGS. 122548 13-03
- EFFECT OF CALCIUM ON RESERPINE INDUCED CATALEPSY. 122549 13-03
- EFFECT OF RESERPINE ON PLASMA LH LEVELS IN OVARECTOMIZED AND CYCLING PROESTRUS RATS. 125330 13-03
- SUPERSENSITIVITY OF CENTRAL NORADRENALINE RECEPTORS AFTER RESERPINE. 125409 13-03
- CARDIOVASCULAR EFFECTS OF CHRONIC RESERPINE ADMINISTRATION IN MONGREL DOGS. 125450 13-03
- COMPARISON OF DOSE DEPENDENT DEPLETION OF SOME MONOAMINES IN RAT BRAINS BY MEANS OF RESERPINE AND OXYPERTINE. 126103 13-03
- RESERPINIZED**
- THE EFFECT OF SOME HALLUCINOGENIC AND OTHER DRUGS ON THE TEMPERATURE OF RESERPINIZED MICE. 104573 13-04
- RESIN**
- RESIN HEMOPERFUSION: A NEW TREATMENT FOR ACUTE DRUG INTOXICATION. 089039 13-16
- INCREASED RESISTANCE TO EXTINCTION OF AN AVOIDANCE RESPONSE IN RATS FOLLOWING THE ADMINISTRATION OF HASHISH RESIN. 103951 13-04
- RESISTANCE**
- INCREASED RESISTANCE TO EXTINCTION OF AN AVOIDANCE RESPONSE IN RATS FOLLOWING THE ADMINISTRATION OF HASHISH RESIN. 103951 13-04
- JOINT EFFECTS OF MEDIAL SEPTAL LESIONS AND AMYLOBARBITONE INJECTIONS ON RESISTANCE TO EXTINCTION IN THE RAT. 106392 13-04
- BIOCHEMICAL MECHANISMS OF TRANSFERABLE DRUG RESISTANCE. 108522 13-03
- RESISTANT**
- TYBAMATE IN TREATMENT RESISTANT HEADACHES. 092162 13-07
- RESERPINE**
- BINDING AND LOCATION OF RESERPINE 123266 13-03
- RESPIRATION**
- EFFECTS OF CHLORDIAZEPOXIDE AND DIAZEPAM ON RESPIRATION AND OXIDATIVE PHOSPHORYLATION IN RAT BRAIN MITOCHONDRIA. 108284 13-03
- RESPIRATORY**
- RESPIRATORY DEPRESSION CAUSED BY NITRAZEPAM IN PATIENTS WITH RESPIRATORY FAILURE. 100495 13-15
- REVERSAL BY SOTALOL OF THE RESPIRATORY DEPRESSION INDUCED IN MICE BY ETHANOL. 105406 13-03
- NIKETHAMIDE AND DOXAPRAM EFFECTS ON PENTAZOCINE AND MORPHINE INDUCED RESPIRATORY DEPRESSION. 105407 13-03
- SEDATIVE DRUGS IN RESPIRATORY FAILURE. 110043 13-15
- RESPONSE**
- THE INFLUENCE OF SELECTIVE TEMPORAL LOBE DAMAGE ON BEHAVIOR AND THE RESPONSE TO LYSERGIC ACID DIETHYLAMIDE. 073494 13-05
- PREDICTING THE RESPONSE OF CHILDREN WITH LEARNING DISABILITIES AND BEHAVIOR PROBLEMS TO DEXTROAMPHETAMINE SULFATE. 077911 13-11
- EFFECTS OF SOME PSYCHOACTIVE DRUGS ON CONDITIONED AVOIDANCE RESPONSE IN AGGRESSIVE MICE. 077992 13-04
- CHLORDIAZEPOXIDE AND AVERSIVE CONDITIONING: EFFECTS OF ACQUISITION AND PERFORMANCE OF THE CONDITIONED NICITATING MEMBRANE RESPONSE IN THE RABBIT. 078527 13-04
- PREDICTORS OF CHLORDIAZEPOXIDE RESPONSE IN ANXIETY. 079432 13-10
- MODIFICATION BY PSYCHOTROPIC DRUGS OF THE CYCLIC ADENOSINE MONOPHOSPHATE RESPONSE TO NOREPINEPHRINE IN RAT BRAIN. 082864 13-03
- FACTORS AFFECTING BEHAVIOR MAINTAINED BY RESPONSE CONTINGENT INTRAVENOUS INFUSIONS OF AMPHETAMINE IN SQUIRREL MONKEYS. 089060 13-04
- A PHYSICIANS RESPONSE TO THE PSYCHEDELIC EXPERIENCE IN THE DEATH ENCOUNTER. 089186 13-12
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: A STUDY OF THE ADRENOCORTICAL RESPONSE TO INTRAVENOUSLY ADMINISTERED INSULIN AND ACTH. 091370 13-08
- THE EFFECTS OF CHLORPROMAZINE AND D-AMPHETAMINE ON THE ACQUISITION AND PERFORMANCE OF A CONDITIONED ESCAPE RESPONSE IN RATS. 091532 13-03
- THE HOSPITALIZATION PRONENESS SCALE AS A PREDICTOR OF RESPONSE TO PHENOTHIAZINE TREATMENT. 092770 13-08
- DIFFERENTIAL RESPONSE TO LITHIUM IN BIPOLAR VS UNIPOLAR DEPRESSED PATIENTS (UNPUBLISHED PAPER). 093454 13-09
- EFFECTS OF SINGLE 1/2 LD50 DOSES OF GB UPON DELAYED RESPONSE AND CONDITIONED AVOIDANCE RESPONSE TESTS. 094956 13-03
- THE EFFECT OF PROSTAGLANDIN E2 ON CONDITIONED AVOIDANCE RESPONSE PERFORMANCE IN RATS. 098159 13-04
- EFFECT OF AN RNA RICH EXTRACT ON ACQUISITION OF A ONE-WAY AVOIDANCE RESPONSE IN RATS. 099686 13-04
- MANIC RESPONSE TO LEVODOPA THERAPY: REPORT OF A CASE. 099922 13-15
- STIMULUS AND RESPONSE SPECIFICITY IN THE HABITUATION OF ANTIPREDATOR BEHAVIOUR IN THE RING DOVE (STREPTOPELIA RISORIA). 100047 13-09
- P-CHLOROPHENYLALANINE EFFECTS ON A CONDITIONED EMOTIONAL RESPONSE IN RATS. 100565 13-04
- DIFFERENTIATION OF TWO GENETICALLY SPECIFIC TYPES OF DEPRESSION BY THE RESPONSE TO ANTIDEPRESSANT DRUGS. 101434 13-10
- DOSE RESPONSE EFFECTS OF ETHANOL ON APPETITIVE BEHAVIORS. 101741 13-04
- CENTRAL CHOLINERGIC BLOCKADE AND TWO-WAY AVOIDANCE ACQUISITION: THE ROLE OF RESPONSE DISINHIBITION. 102097 13-04
- EFFECTS OF RESTRAINT ON RAT ADRENOMEDULLARY RESPONSE TO 2-DEOXY-D-GLUCOSE. 103948 13-03
- INCREASED RESISTANCE TO EXTINCTION OF AN AVOIDANCE RESPONSE IN RATS FOLLOWING THE ADMINISTRATION OF HASHISH RESIN. 103951 13-04
- DRUG, DOCTOR WARMTH, AND CLINIC SETTING IN THE SYMPTOMATIC RESPONSE TO MINOR TRANQUILIZERS. 104143 13-10
- DRUG-INDUCED SUPPRESSION OF CONDITIONED HYPERTHERMIC AND CONDITIONED AVOIDANCE BEHAVIOR RESPONSE IN RATS. 104144 13-04
- DOSE RESPONSE ANALYSIS OF THE EFFECTS OF TETRAHYDROCANNABINOL IN MAN. 104362 13-12
- DOSE RESPONSE AND BIASED SET STUDY OF AN AMPHETAMINE AND A BARBITURATE. 104379 13-16
- EFFECT OF ALDRIN ON THE CONDITION AVOIDANCE RESPONSE AND ELECTROSHOCK SEIZURE THRESHOLD OF OFFSPRING FROM ALDRIN TREATED MOTHER. 104791 13-04
- THE EFFECTS OF NITROUS OXIDE ON THE AUDITORY EVOKED RESPONSE IN A REACTION TIME TASK. 105011 13-14
- THE EFFECTS OF VARIOUS ANTIDEPRESSANT DRUGS UPON THE TETRABENAZINE SUPPRESSED CONDITIONED AVOIDANCE RESPONSE IN RATS. 105013 13-04
- THE EFFECT OF COCAINE ON CATECHOL-O-METHYLTRANSFERASE AND ON THE RESPONSE TO NOREPINEPHRINE OF RABBIT AORTIC STRIPS. 105391 13-03
- VARIATION IN HYDROXYTRYPTAMINE METABOLISM IN THE RAT. EFFECTS ON THE NEUROCHEMICAL RESPONSE TO PHENCYCLIDINE. 105403 13-03
- FACILITATORY EFFECTS OF AMPHETAMINE ON LEARNING AND RECALL OF AN AVOIDANCE RESPONSE IN RATS. 107943 13-04
- ACQUISITION OF CONDITIONED AVOIDANCE RESPONSE IN RATS UNDER THE INFLUENCE OF ADDICTING DRUGS. 110182 13-04
- A QUANTITATIVE STUDY OF NEUROLEPTIC INDUCED EXTRAPYRAMIDAL SYMPTOMS AND THEIR RESPONSE TO DEXTIMIDE, A POTENT AND LONG-ACTING ANTIPARKINSONIAN AGENT. 115396 13-13
- ADRENERGIC MECHANISMS IN HYPOGLYCEMIC SHOCK IN RABBITS: II. DISORDERS OF ADRENERGIC RESPONSE COMPENSATING HYPOGLYCEMIA IN RABBITS TREATED WITH SMALL DOSES OF RESERPINE. 119648 13-03
- EFFECT OF INTRAVENTRICULARLY APPLIED SODIUM OROTATE ON A CONDITIONED AVOIDANCE RESPONSE OF THE RAT. 119690 13-04

# Subject Index

# Psychopharmacology Abstracts

- EFFECTS OF CHLORPROMAZINE, DL-PROPRANOLOL, AND D-PROPRANOLOL IN THE ISOLATED RAT HEART: MODIFICATION OF THE RESPONSE TO ISOPRENALINE AND GLUCAGON. 120719 13-03
- ACUTE DIURETIC RESPONSE TO GUANETHIDINE AND RESERPINE. 122536 13-03
- A COMPARISON OF FG-5310, A NEW SELECTIVE MONOAMINE OXIDASE INHIBITOR, AND OTHER MAO INHIBITORS ON THE BLOOD PRESSURE RESPONSE TO TYRAMINE. 123287 13-03
- THE BEHAVIORAL EFFECTS OF A NEW PSYCHOACTIVE DRUG (D-CARBINE) ON A PASSIVE AVOIDANCE RESPONSE AND LOCOMOTION AND ITS INTERACTION WITH AMPHETAMINE. 124104 13-02
- LITHIUM EFFECTS ON THE EEG AND SOMATOSENSORY EVOKED RESPONSE IN RELATION TO SODIUM METABOLISM. 125569 13-13
- RESPONSES**
- ENHANCED AMPHETAMINE RESPONSES AFTER FRONTAL CORTEX LESIONS IN THE RAT. 073309 13-04
- EFFECTS OF TWO TETRAHYDROCANNABINOLS AND OF PENTOBARBITAL ON CORTICO-CORTICAL EVOKED RESPONSES IN THE SQUIRREL MONKEY. 082720 13-03
- EFFECT OF TRICYCLIC ANTIDEPRESSANTS ON MONOAMINE RESPONSES OF SINGLE CORTICAL NEURONES. 087359 13-03
- RHE EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CHLORPROMAZINE ON THE ACQUISITION AND EXTINCTION OF POSITIVELY REINFORCED OPERANT RESPONSES. 088679 13-04
- NORADRENALINE AND ACETYLCHOLINE RESPONSES OF SUPRAOPTIC NEUROSECRETORY CELLS (UNPUBLISHED PAPER). 092379 13-03
- HORMONAL INFLUENCES ON FEAR MOTIVATED RESPONSES. 093112 13-14
- PSYCHOPHARMACOTHERAPY IN PEDOPSYCHIATRY: PARADOXICAL RESPONSES AND ENCOUNTERED DIFFICULTIES. 095743 13-15
- SOMATOSENSORY EVOKED RESPONSES IN THE MESENCEPHALIC CENTRAL GRAY MATTER OF THE RAT. 097446 13-03
- EFFECT OF TEMPORARY SEPTAL DYSFUNCTION ON CONDITIONING AND PERFORMANCE OF FEAR RESPONSES IN RATS. 097448 13-03
- BLOOD PRESSURE/PULSE RESPONSES TO INTRAVENOUS METHACHOLINE IN PSYCHIATRIC ILLNESS. 102836 13-13
- ACQUISITION OF NEW RESPONSES BY RATS DURING CHRONIC DEPRESSION OF ACETYLCHOLINESTERASE ACTIVITY. 103461 13-04
- THE EFFECT OF PRE- AND POST-TRIAL AMPHETAMINE INJECTIONS ON AVOIDANCE RESPONSES OF RATS. 103944 13-04
- DIFFERENTIAL ANTAGONISM BETWEEN DMAE (A HEMICHOLINIUM DERIVATIVE) AND ATROPINE ON CONTRACTILE RESPONSES OF THE RAT ILEUM. 104327 13-03
- ACTIVITY OF MAJOR ANALGESICS ON MOTOR NOCICEPTIVE RESPONSES IN DECEREBRATE MICE. 105010 13-03
- EFFECTS OF HALOPERIDOL, TRIFLUOPERIDOL, NITRAZEPAM AND CHLORDIAZEPOXIDE UPON CONDITIONED MIDBRAIN BEHAVIORAL RESPONSES. 106394 13-04
- SOME BRONCHOCONSTRICTING AND BRONCHODILATING RESPONSES OF HUMAN ISOLATED BRONCHI: EVIDENCE FOR THE EXISTENCE OF ALPHA-ADRENORECEPTORS. 106429 13-13
- PHOTIC RESPONSES IN HYPERKINESIS OF CHILDHOOD. 106862 13-11
- EFFECTS OF Mescaline AND NEMBUTAL ON CORTICAL AND RETINAL LIGHT EVOKED RESPONSES IN THE CAT. (PH.D. DISSERTATION). 109622 13-03
- EXTINCTION OF OPERANT RESPONSES BY RATS UNDER THE EFFECTS OF CANNABIS-SATIVA EXTRACT. 110036 13-04
- EFFECTS OF DRUG STATE CHANGES UPON TWO-WAY SHUTTLE AVOIDANCE RESPONSES IN RATS, TREATED WITH CHLORDIAZEPOXIDE OR PLACEBO. 117747 13-04
- POTENTIATION BY COCAINE OF RESPONSES OF THE GUINEA-PIG ISOLATED TRACHEAL CHAIN TO ETHYLNORADRENALINE AND ALPHA-METHYLNORADRENALINE. 122550 13-03
- RESPONSIVE**
- DEXTROAMPHETAMINE RESPONSIVE BEHAVIOR DISORDER IN SCHOOL CHILDREN. 100813 13-14
- RESTING**
- DIGITAL COMPUTER ANALYZED RESTING AND SLEEP EEG INVESTIGATIONS AND CLINICAL CHANGES DURING MOLINDONE TREATMENT. 107244 13-08
- RESTLESSNESS**
- EFFECTIVENESS OF VARIOUS TRANQUILLISERS IN THE MANAGEMENT OF SENILE RESTLESSNESS. 088488 13-14
- RESTRAINT**
- BRAIN HISTAMINE: RAPID APPARENT TURNOVER ALTERED BY RESTRAINT AND COLD STRESS. 078017 13-03
- EFFECTS OF RESTRAINT ON RAT ADRENOMEDULLARY RESPONSE TO 2-DEOXY-D-GLUCOSE. 103948 13-03
- RESTRICTED**
- EFFECTS OF CYCLOHEXIMIDE ON RESTRICTED BEHAVIORAL PATTERNS OF MICE. 091225 13-04
- RESULTANT**
- INHIBITION OF ALDEHYDE DEHYDROGENASE BY 2-CHLOROACETOPHENONE AND THE RESULTANT EFFECTS OF THE CATABOLISM OF NOREPINEPHRINE ON BRAIN. 077726 13-03
- RESUSCITATION**
- CASE OF DELIRIUM FOLLOWING RESUSCITATION, WITH MILD PSYCHOORGANIC SEQUELAE. 118222 13-09
- RETARDATES**
- THE EFFECT OF DRUGS ON STEREOTYPED AND NONSTEREOTYPED OPERANT BEHAVIORS IN RETARDATES. 104572 13-14
- RETARDED**
- THE EFFECTIVENESS OF METHYLPHENIDATE HYDROCHLORIDE (RITALIN) ON LEARNING AND BEHAVIOR IN PUBLIC SCHOOL EDUCABLE MENTALLY RETARDED CHILDREN. 087272 13-14
- DECANOATE OF FLUPHENAZINE, A NEUROLEPTIC WITH RETARDED ACTION, IN THE TREATMENT OF SCHIZOPHRENIA. 098982 13-08
- RETARDED DEPRESSION AND THE DOPAMINE METABOLISM. 104829 13-13
- RETENTION**
- EFFECTS OF IMIPRAMINE ON THE NA-ION DEPENDENT EXCHANGE AND RETENTION OF GAMMA-AMINOBUTYRIC ACID BY MOUSE BRAIN SUBCELLULAR PARTICLES. 077725 13-03
- EFFECTS OF HALOTHANE ANESTHESIA ON THE RETENTION OF A PASSIVE AVOIDANCE TASK IN RATS. 078448 13-04
- EFFECTS OF RIBONUCLEASE ON ACQUISITION AND RETENTION OF ESCAPE AVOIDANCE BEHAVIOR IN A SELECTIVELY BRED RAT STRAIN. 078453 13-04
- CHANGES IN THE RETENTION AND METABOLISM OF 3H-1-NOREPINEPHRINE IN RAT BRAIN IN VIVO AFTER 6-HYDROXYDOPAMINE PRETREATMENT. 082721 13-03
- AMPHETAMINE BARBITURATE MIXTURES: LEARNING AND RETENTION IN RATS. 086771 13-04
- SODIUM RETENTION AND NORADRENALINE SENSITIVITY OF THE PUPILS AND OF THE CARDIOVASCULAR SYSTEM. 106149 13-03
- EFFECTS OF PUROMYCIN ON RETENTION OF INSTRUMENTAL TRAINING OF MICE. 106685 13-04
- COMPOUNDS ANTAGONISTIC TO NOREPINEPHRINE RETENTION BY RAT BRAIN HOMOGENATES. 108289 13-03
- RETICULAR**
- EFFECT OF PUROMYCIN AND ACTINOMYCIN-D INJECTION INTO THE MESENCEPHALIC RETICULAR FORMATION ON THE CONDITIONED REFLEXES OF ANIMALS. 113758 13-04
- RETICULARIS**
- LIVEDO RETICULARIS DURING AMANTADINE TREATMENT. 098142 13-15
- RETICULINE**
- OPIUM ALKALOIDS IX: DETECTION OF COREXIMINE IN PAPAVER-SOMNIFERUM L. BASED ON ITS BIOSYNTHESIS FROM RETICULINE. 086577 13-01

- RETINAL**  
EFFECTS OF MESCALINE AND NEMBUTAL ON CORTICAL AND RETINAL LIGHT EVOKED RESPONSES IN THE CAT. (PH.D. DISSERTATION). 109622 13-03
- RETRIEVAL**  
RETRIEVAL OF INFORMATION AFTER USE OF MARIJUANA. 095480 13-14
- RETROACTIVE**  
PROACTIVE AND RETROACTIVE EFFECTS OF DIETHYL ETHER ON SPATIAL DISCRIMINATION LEARNING IN INBRED MOUSE STRAINS DBA/2J AND C57BL/6J. 079532 13-14
- RETROGRADE**  
THE INFLUENCE OF OROTIC ACID ON THE RETROGRADE AMNESIA CAUSED BY ECS. 103945 13-04  
THE ATTENUATING EFFECT OF STRYCHNINE AND PHYSOSTIGMINE ON DURAL ELECTROCONVULSIVE SHOCK INDUCED RETROGRADE AMNESIA. (PH.D. DISSERTATION). 109358 13-04
- RETROSPECTIVE**  
COURSE OF BODY TEMPERATURE IN NEUROLEPTIC INJECTION TREATMENTS: STATISTICAL EVALUATION OF RETROSPECTIVE DATA. 098272 13-15
- RETZIUS**  
EFFECT OF PENTYLENETETRAZOL ON THE LEECH RETZIUS CELL. 099108 13-03
- REVERSAL**  
NOREPINEPHRINE: REVERSAL OF ANOREXIA IN RATS WITH LATERAL HYPOTHALAMIC DAMAGE. 077680 13-04  
EFFECTS OF MAGNESIUM PEMOLINE IN DIMETHYLSULFOXIDE ON REVERSAL LEARNING, MOTOR ACTIVITY, AND WATER INTAKE. 079611 13-04  
THE REVERSAL OF ANTICHOLINERGIC DRUG-INDUCED DELIRIUM AND COMA WITH PHYSOSTIGMINE. 079833 13-14  
DOPA REVERSAL OF RESERPINE ENHANCEMENT OF AUDIOGENIC SEIZURE SUSCEPTIBILITY IN MICE. 088577 13-03  
CHLORPROMAZINE REVERSAL OF THE ANTIHYPERTENSIVE ACTION OF GUANETHIDINE. 098750 13-13  
REVERSAL BY SOTALOL OF THE RESPIRATORY DEPRESSION INDUCED IN MICE BY ETHANOL. 105406 13-03  
REVERSAL OF CHLORPROMAZINE INDUCED HYPOTENSION BY CALCIUM CHLORIDE IN DOGS. 119691 13-04
- REVERSIBILITY**  
TOLERANCE TO OPIOID NARCOTICS: TIME COURSE AND REVERSIBILITY OF PHYSICAL DEPENDENCE IN MICE. 098926 13-03
- REVERSIBLE**  
FURTHER STUDIES ON THE NATURE OF PERSISTENT RESERPINE BINDING: EVIDENCE FOR REVERSIBLE AND IRREVERSIBLE BINDING. 086820 13-03
- REVIEW**  
DRUGS ALTER WEB-BUILDING OF SPIDERS: A REVIEW AND EVALUATION. 079096 13-04  
MARIJUANA - A MEDICAL REVIEW. 079356 13-14  
LITHIUM IN PREGNANCY: A REVIEW WITH RECOMMENDATIONS. 084356 13-09  
ETHCHLORVYNOL (PLACIDYL) ABUSE AND WITHDRAWAL (REVIEW OF CLINICAL PICTURE AND REPORT OF 2 CASES). 088152 13-15  
REVIEW OF THE EFFECTS IN MAN OF MARIJUANA AND TETRAHYDROCANNABINOLS ON SUBJECTIVE STATE AND PHYSIOLOGIC FUNCTIONING (UNPUBLISHED PAPER). 092101 13-13  
MECHANISM OF LITHIUM CARBONATE IN MANIC-DEPRESSIVE ILLNESS: A REVIEW. 098288 13-13  
DOXEPIN: A REVIEW. 098915 13-07  
CLINICAL HYPOTHYROIDISM OCCURRING DURING LITHIUM TREATMENT: TWO CASE HISTORIES AND A REVIEW OF THYROID FUNCTION IN 19 PATIENTS. 101061 13-15  
TECHNIQUES USED TO ASSESS THE EFFICACY OF PSYCHOTROPIC DRUGS: A CRITICAL REVIEW. 102937 13-16  
CRITICAL REVIEW OF ANNE E. CALDWELL'S ORIGINS OF PSYCHOPHARMACOLOGY FROM CPZ TO LSD. 105554 13-17
- MONOAMINES AND OVARIAN HORMONE LINKED SEXUAL AND EMOTIONAL CHANGES: A REVIEW.** 110462 13-17
- LEVODOPA: A REVIEW OF ITS PHARMACOLOGICAL PROPERTIES AND THERAPEUTIC USES WITH PARTICULAR REFERENCES TO PARKINSONISM.** 110845 13-11
- PEMOLINE: REVIEW OF PERFORMANCE.** 111420 13-04
- REVISITED**  
LSD REVISITED: A TEN-YEAR FOLLOW-UP OF MEDICAL LSD USE. 072262 13-12
- REWARD**  
POSSIBLE ETIOLOGY OF SCHIZOPHRENIA: PROGRESSIVE DAMAGE TO THE NORADRENERGIC REWARD SYSTEM BY 6-HYDROXYDOPAMINE. 088491 13-04  
CHOLINERGIC MECHANISM DETERMINES THE OCCURRENCE OF REWARD CONTINGENT POSITIVE VARIATION (RCPV) IN CAT. 088543 13-03  
DECREASED SEPTAL FOREBRAIN AND LATERAL HYPOTHALAMIC REWARD AFTER ALPHA-METHYL-P-TYROSINE. 088681 13-04  
EFFECTS OF CHLORDIAZEPOXIDE ON DEPRESSED PERFORMANCE AFTER REWARD REDUCTION. 125164 13-04
- REWARDED**  
EFFECT OF ACTH ON EXTINCTION OF REWARDED BEHAVIOUR IS BLOCKED BY PREVIOUS ADMINISTRATION OF ACTH. 080109 13-04
- REWARDING**  
SELF-STARVATION AND REWARDING BRAIN STIMULATION: EFFECTS OF CHLORPROMAZINE AND PENTOBARBITAL. 075046 13-04
- REWARDS**  
A METHOD FOR STUDYING THE INFLUENCES OF DRUGS ON LEARNING FOR FOOD REWARDS IN RATS. 125249 13-06
- RHE**  
RHE EFFECTS OF ACUTE AND CHRONIC ADMINISTRATION OF CHLORPROMAZINE ON THE ACQUISITION AND EXTINCTION OF POSITIVELY REINFORCED OPERANT RESPONSES. 088679 13-04
- RHESUS**  
NALORPHINE INDUCED CHANGES IN MORPHINE SELF-ADMINISTRATION IN RHESUS MONKEYS. 082719 13-04  
BIOLOGICAL DISPOSITION AND METABOLIC FATE OF FLUPHENAZINE-14C IN THE DOG AND RHESUS MONKEY. 086580 13-03  
EFFECT OF CHRONIC METHAMPHETAMINE INTOXICATION IN RHESUS MONKEYS. 097456 13-04  
IMPAIRMENT OF RECENT MEMORY BY MARIJUANA AND THC IN RHESUS MONKEYS. 099697 13-04  
BEHAVIORAL EFFECTS OF MORPHINE AND METHADONE IN RHESUS MONKEYS. 101740 13-04  
THE DIFFERENTIAL EFFECTS OF METHAMPHETAMINE UPON VISUAL EXPLORATORY BEHAVIOR AND SPONTANEOUS MOTOR ACTIVITY IN RHESUS MONKEYS (MACACA-MULATTA). 103040 13-04  
WHOLE-BODY AND REGIONAL BRAIN DISTRIBUTION OF DIAZEPAM IN NEWBORN RHESUS MONKEYS. 103651 13-03  
EFFECTS OF RESERPINE ON THE SOCIAL BEHAVIOR OF RHESUS MONKEYS. 108699 13-04  
APPETITE SUPPRESSION AND CENTRAL NERVOUS SYSTEM STIMULATION IN THE RHESUS MONKEY. 110185 13-04  
PSYCHOMOTOR STIMULANT SELF-ADMINISTRATION AS A FUNCTION OF DOSAGE PER INJECTION IN THE RHESUS MONKEY. 111146 13-04
- RHIZOME**  
ON THE SEDATIVE ACTION OF THE KAVA RHIZOME (PIPER-METHYST). 123278 13-03
- RHYTHM**  
SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: CHANGES IN THE DIURNAL RHYTHM AND PSYCHIATRIC MENTAL STATUS ON WITHDRAWAL OF DRUGS. 106050 13-08  
EFFECT OF ANESTHETIC DRUGS ON TIME PRODUCTION AND ALPHA RHYTHM. 111839 13-14
- RHYTHMIC**  
DAILY RHYTHMIC CHANGES IN HEPATIC PHENYLALANINE HYDROXYLASE ACTIVITY: ROLE OF DIETARY PHENYLALANINE. 088557 13-03

## Subject Index

- ON THE FUNCTIONAL RELATIONSHIP BETWEEN PHYSIOLOGICAL AND  
PENTETRAZOL INDUCED RHYTHMIC ACTIVITY IN THE EEG OF  
UNRESTRAINED RATS. 113567 13-03
- DAILY RHYTHMIC VARIATION AND LIVER DRUG METABOLISM IN RATS. 120467 13-03
- RIBONUCLEASE**  
EFFECTS OF RIBONUCLEASE ON ACQUISITION AND RETENTION OF ESCAPE  
AVOIDANCE BEHAVIOR IN A SELECTIVELY BRED RAT STRAIN. 078453 13-04
- RIBONUCLEIC**  
THE EFFECTS OF DRUG-INDUCED INCREASES IN RIBONUCLEIC ACIDS AND  
PROTEINS ON MEMORY. (PH.D.DISSERTATION). 109503 13-04
- RIBOSOMAL**  
EFFECTS OF ACUTE AND CHRONIC ETHANOL ADMINISTRATION ON  
RIBOSOMAL PROTEIN SYNTHESIS IN MOUSE BRAIN AND LIVER. 088558 13-03
- RIBOSOMES**  
MESCALINE INDUCED CHANGES OF BRAIN CORTEX RIBOSOMES. EFFECT  
OF MESCALINE ON AMINO ACID INCORPORATING ABILITY OF  
RIBOSOMES. 109418 13-03
- RICH**  
EFFECT OF AN RNA RICH EXTRACT ON ACQUISITION OF A ONE-WAY  
AVOIDANCE RESPONSE IN RATS. 099686 13-04
- RIMLAND**  
LABORATORY PREDICTIONS OF INFANTILE AUTISM BASED ON 5-  
HYDROXYTRYPTAMINE EFFLUX FROM BLOOD PLATELETS AND THEIR  
CORRELATION WITH THE RIMLAND E-2 SCORE. 082634 13-13
- RISK**  
THE INEFFECTIVENESS OF DIPHENYLHYDANTOIN IN PREVENTING FEBRILE  
CONVULSIONS IN THE AGE OF GREATEST RISK, UNDER THREE YEARS. 100844 13-11
- RISK-TAKING**  
THE EFFECTS OF MEPROBAMATE ON RISK-TAKING BEHAVIOR: A TEST OF  
WITTENBORNS HYPOTHESIS. (PH.D.DISSERTATION). 118619 13-14
- RISKS**  
SOME RISKS OF LITHIUM THERAPY. 102039 13-15
- RITALIN**  
THE EFFECTIVENESS OF METHYLPHENIDATE HYDROCHLORIDE (RITALIN)  
ON LEARNING AND BEHAVIOR IN PUBLIC SCHOOL EDUCABLE  
MENTALLY RETARDED CHILDREN. 087272 13-14
- ATTENTION IN HYPERACTIVE CHILDREN AND THE EFFECT OF  
METHYLPHENIDATE (RITALIN). 101643 13-11
- RNA**  
EFFECTS OF EXCESS PHENYLALANINE ON IN VITRO AND IN VIVO RNA  
AND PROTEIN SYNTHESIS AND POLYRIBOSOME LEVELS IN BRAINS OF  
MICE. 086806 13-03
- FRACTIONATION OF GOLDFISH BRAIN AMINOACYL TRANSFER RNA AT  
THE MICROGRAM LEVEL. 087125 13-06
- EFFECT OF LITHIUM ADMINISTRATION ON RNA METABOLISM IN RAT  
BRAIN. 096013 13-03
- EFFECT OF AN RNA RICH EXTRACT ON ACQUISITION OF A ONE-WAY  
AVOIDANCE RESPONSE IN RATS. 099686 13-04
- THE EFFECT OF RNA PRECURSORS ON THE MAINTENANCE OF LONG-TERM  
MEMORY. 103946 13-04
- RNASE**  
TEMPORAL EFFECTS OF RNASE AND DNASE IN DISRUPTING ACQUIRED  
ESCAPE BEHAVIOR IN REGENERATED PLANARIA. 079423 13-04
- RO-4-4602**  
CLINICAL OBSERVATIONS ON THE COMPOSITE TREATMENT OF  
PARKINSONS SYNDROME WITH L-DOPA AND THE DECARBOXYLASE  
INHIBITOR RO-4-4602. 125996 13-11
- RO-5-3350**  
EFFECT OF 7-BROMO-5-(2-PYRIDYL)-3H-1,4-BENZODIAZEPINONE,  
BROMAZEPAM (RO-5-3350), A NEW MINOR TRANQUILIZER, ON  
PSYCHONEUROSIS WITH SPECIAL REFERENCE TO THE OBSESSIVE-  
COMPULSIVE SYMPTOMS. 118969 13-10
- RO-5-4200**  
ACTION OF A BENZODIAZEPINE DERIVATIVE, RO-5-4200, ON THE EEG  
AND SLEEP CYCLE IN PATIENTS WITH INSOMNIA. 098662 13-07

## Psychopharmacology Abstracts

- RO-8-2580**  
1,3-BIS 4-(P-METHOXYPHENYL)PIPERAZINYL-2-PROPANOL (RO-8-2580): A  
NEW MONOAMINE DEPLETOR. 105408 13-02
- RODENTS**  
INTERACTION EFFECTS OF ETHANOL AND PYRAZOLE IN LABORATORY  
RODENTS. 104536 13-03
- PHARMACOLOGICAL PROPERTIES OF A NEW POTENTIAL NEUROLEPTIC  
DRUG OXYPROTHEPIN. I. THE ACTION ON THE CENTRAL NERVOUS  
SYSTEM IN RODENT 105839 13-02
- ROLE**  
THE ROLE OF BODY ATTITUDES AND ACQUIESCENCE IN EPINEPHRINE  
AND PLACEBO EFFECTS. 079188 13-14
- FACILITATION AND IMPAIRMENT OF AVOIDANCE RESPONDING BY  
PHENOBARBITAL SODIUM, CHLORDIAZEPOXIDE AND DIAZEPAM - THE  
ROLE OF PERFORMANCE BASE LINES. 082881 13-04
- ROLE OF CEREBRAL DOPAMINE IN THE ACTION OF PSYCHOTROPIC  
DRUGS. 087361 13-04
- DAILY RHYTHMIC CHANGES IN HEPATIC PHENYLALANINE HYDROXYLASE  
ACTIVITY. ROLE OF DIETARY PHENYLALANINE. 088557 13-03
- ACTIVATION OF BRAIN SEROTONIN METABOLISM BY HEAT: ROLE OF  
MIDBRAIN RAPHE NEURONS. 092374 13-03
- ROLE OF BRAIN ACETYLCHOLINE AND DOPAMINE IN ACUTE NEUROTIC  
EFFECTS OF DOT. 099652 13-05
- CENTRAL CHOLINERGIC BLOCKADE AND TWO-WAY AVOIDANCE  
ACQUISITION: THE ROLE OF RESPONSE DISINHIBITION. 102097 13-04
- LITHIUM AND RUBIDIUM: A ROLE IN THE AFFECTIVE DISORDERS. 102592 13-09
- ON THE ROLE OF NOREPINEPHRINE IN THE ANORECTIC EFFECT OF D-  
AMPHETAMINE IN MICE. 104326 13-03
- THE ROLE OF BRAIN NOREPINEPHRINE IN THE ANOREXIC EFFECTS OF  
DEXTROAMPHETAMINE AND MONOAMINE OXIDASE INHIBITORS IN  
THE RAT. 104574 13-03
- THE ROLE OF CENTRAL M-CHOLINERGIC SYSTEMS IN THE  
DEVELOPMENT OF FOOD MOTOR CONDITIONED REFLEXES. 107719 13-03
- POSSIBLE ROLE OF DOPAMINE CONTAINING NEURONES IN THE  
BEHAVIOURAL EFFECTS OF COCAINE. 109196 13-03
- ROLE OF BRAIN MONOAMINES IN THE FATAL HYPERTHERMIA INDUCED  
BY PETHIDINE OR IMIPRAMINE IN RABBITS PRETREATED WITH  
PARGYLINE. 109197 13-03
- ROLE OF CENTRAL SEROTONINERGIC PROCESSES IN DEVELOPMENT OF  
HEAD TWITCHES IN MICE AND RATS UNDER THE INFLUENCE OF  
TRYPTOPHAN. 109920 13-02
- POSSIBLE ROLE OF THE PITUITARY/ADRENOCORTICAL AXIS IN  
AGGRESSIVE BEHAVIOUR. 111873 13-04
- STUDIES ON THE FUNCTIONAL ROLE OF ADENOSINE 3,5  
MONOPHOSPHATE, HISTAMINE, AND PROSTAGLANDIN E1 IN THE  
CENTRAL NERVOUS SYSTEM. 120949 13-14
- ACTION AND ROLE OF SULPRIDE IN THE TREATMENT OF ABDOMINAL  
PAIN SYNDROMES ASSOCIATED WITH PSYCHIATRIC PROBLEMS. 121849 13-17
- ROLES**  
TRIAL MANAGEMENT IN PSYCHOPHARMACOLOGY: THE ROLES AND  
TASKS OF AN INDUSTRY PHYSICIAN. 078957 13-17
- ROOT**  
CENTRAL NERVOUS SYSTEM EFFECTS OF SIDA-RETUSA ROOT. 098306 13-04
- ROOTS**  
CANNABIS ROOTS. 099681 13-13
- CANNABIS ROOTS. 102611 13-13
- ROUTE**  
METABOLISM OF AMPHETAMINES TO OXIMES AS A ROUTE TO  
DEAMINATION. 087115 13-03
- MARIHUANA: IMPORTANCE OF THE ROUTE OF ADMINISTRATION. 088639 13-03

- ROUTES**  
PLASMA AND BRAIN LITHIUM LEVELS AFTER LITHIUM CARBONATE AND LITHIUM CHLORIDE ADMINISTRATION BY DIFFERENT ROUTES IN RATS. 099852 13-03
- RUBIDIUM**  
LITHIUM AND RUBIDIUM: A ROLE IN THE AFFECTIVE DISORDERS. 102592 13-09  
RUBIDIUM CHLORIDE INGESTION BY VOLUNTEER SUBJECTS: INITIAL EXPERIENCE. 104438 13-07  
RUBIDIUM INDUCED INCREASE IN SHOCK ELICITED AGGRESSION IN RATS. 111144 13-04
- RUNWAY**  
SODIUM AMYLOBARBITONE, THE PARTIAL REINFORCEMENT EXTINCTION EFFECT, AND THE FRUSTRATION EFFECT IN THE DOUBLE RUNWAY. 082859 13-04
- RURAL**  
IMPLEMENTATION OF PSYCHOTHERAPY BY LIBRIUM IN A PIONEERING RURAL INDUSTRIAL PSYCHIATRIC PRACTICE. 096019 13-10  
THE TREATMENT OF ACUTE ALCOHOLISM IN A SMALL RURAL HOSPITAL. 105040 13-17
- S-TRIAZOLO**  
STRUCTURE ACTIVITY RELATIONSHIP OF S-TRIAZOLO 1,4 BENZODIAZEPINES IN CENTRAL NERVOUS DEPRESSANT ACTION. 105390 13-02
- SACCADIC**  
EFFECT OF BENZODIAZEPINES UPON SACCADIC EYE MOVEMENTS IN MAN. 104368 13-13
- SACCHARIN**  
D-AMPHETAMINE AND PALATIBILITY OF A SACCHARIN SOLUTION. 088071 13-04  
CONTINUED AVERSION TO SACCHARIN BY SINGLE ADMINISTRATIONS OF MESCALINE AND D-AMPHETAMINE. 107629 13-04
- SAD**  
THE SAD ONES. 093694 13-04
- SAFETY**  
SAFETY OF HYPNOTICS. 082750 13-13  
DECISION PROCESSES IN ESTABLISHING THE EFFICACY AND SAFETY OF PSYCHOTROPIC AGENTS. 095534 13-17  
THE SAFETY OF A SINGLE DAILY DOSE SCHEDULE FOR IMIPRAMINE. 099818 13-11  
THE SAFETY TEST OF 10-CHLORO-11B-(2-CHLOROPHENYL) 2,3,5,6,7,11B-HEXAHYDROBENZOX(6,7) 1,4 DIAZEPINOXAZOLONE (CS-370) - II. EFFECT OF CS-370 UPON THE DEVELOPMENT OF PRE-NATAL AND POST-NATAL OFFSPRINGS OF EXPERIMENTAL ANIMALS. 116154 13-03  
THE SAFETY TEST OF 10-CHLORO-11B-(2-CHLOROPHENYL) 2,3,5,6,7,11B-HEXAHYDROBENZODIAZEPINOXAZOLONE (CS-370). 116383 13-15
- SALAAM**  
OBSERVATIONS ON THE EFFECT OF TEGRETOL IN SALAAM SEIZURES IN CHILDREN. 123890 13-07
- SALINE**  
AMOBARBITAL VS SALINE EXTINCTION FOLLOWING DIFFERENT MAGNITUDES OF CONSISTENT REINFORCEMENT. 078449 13-04  
INJECTIBLE DISPERSION OF DELTA9-TETRAHYDROCANNABINOL IN SALINE USING POLYVINYLPIRROLIDONE. 088638 13-06
- SALT**  
PROPHYLACTIC EFFECT OF LITHIUM SALT IN AFFECTIVE PSYCHOSES. 118208 13-09
- SALTS**  
LITHIUM SALTS AS SEDATIVES: AN INVESTIGATION INTO THE POSSIBLE EFFECT OF LITHIUM ON ACUTE ANXIETY. 100811 13-10  
PROPHYLACTIC EFFECTS OF LITHIUM SALTS IN PERIODIC AFFECTIVE PSYCHOSES. 101967 13-09  
PROPHYLACTIC EFFECT OF LITHIUM SALTS IN PERIODIC AFFECTIVE PSYCHOSIS. 102602 13-09  
MODIFICATION OF DEPRESSIVE EPISODES DURING PROPHYLACTIC ADMINISTRATION OF LITHIUM SALTS. 105831 13-09  
COPPER SALTS IN TREATMENT OF SCHIZOPHRENIA AND THEIR EFFECT ON INSULIN THERAPY. 113429 13-08
- USE OF LITHIUM SALTS IN TREATMENT AND PREVENTION OF AFFECTIVE PSYCHOSES. 113750 13-09
- SANCTIONS**  
PANEL SANCTIONS AMPHETAMINES FOR HYPERKINETIC CHILDREN. 089087 13-14
- SCALE**  
A BRIEF RATING SCALE FOR ANTIDEPRESSANT DRUG TRIALS. 078939 13-06  
THE HOSPITALIZATION PRONENESS SCALE AS A PREDICTOR OF RESPONSE TO PHENOTHIAZINE TREATMENT. 092770 13-08  
SCALE FOR RATING TREATMENT EMERGENT SYMPTOMS IN PSYCHIATRY DVP. 105837 13-15
- SCALES**  
GLOBAL RATINGS COMPARED TO RATING SCALES IN EVALUATING TRIFLUOPERAZINE AMOBARBITAL IN ANXIOUS PSYCHONEUROTIC OUTPATIENTS. 098093 13-10
- SCH-12041**  
SCH-12041: A NEW ANTIANXIETY AGENT. 097555 13-07  
A CLINICAL TRIAL OF SCH-12041 WITH CHRONIC ALCOHOLIC PATIENTS. 099156 13-07
- SCH-12679**  
CLINICAL TOXICOLOGICAL AND ELECTROENCEPHALOGRAPHIC STUDY WITH SCH-12679 IN CHRONIC SCHIZOPHRENICS. 103325 13-07
- SCHEDULE**  
EFFECTS OF 1-DELTA-9 AND 1-DELTA8-TRANS-TETRAHYDROCANNABINOL AND CANNABINOL ON SCHEDULE CONTROLLED BEHAVIOR OF PIGEONS AND RATS. 094255 13-04  
THE SAFETY OF A SINGLE DAILY DOSE SCHEDULE FOR IMIPRAMINE. 099818 13-11  
A TECHNIQUE IN THE EVALUATION OF PSYCHOTROPIC MEDICATION BASED ON A PATIENT DEMAND SCHEDULE: COMPARISON OF THE EFFICACY OF OXYPERTINE, DIAZEPAM AND PLACEBO IN ANXIETY. 100538 13-10  
DEVELOPMENT OF BEHAVIORAL TOLERANCE TO MORPHINE AND METHADONE USING THE SCHEDULE CONTROLLED BEHAVIOR OF THE PIGEON. 104609 13-04  
INTERACTIONS BETWEEN HALOXONE AND CHLORPROMAZINE ON BEHAVIOR UNDER SCHEDULE CONTROL. 104826 13-03
- SCHEDULES**  
EFFECTS OF LSD ON TIME BASED SCHEDULES OF REINFORCEMENT. 110190 13-04  
DRUG ADMINISTRATION SCHEDULES. 115619 13-13
- SCHEDULING**  
MODIFICATION OF CONFLICT BEHAVIOR BY PRIOR EXPERIENCE: EFFECTS OF SCHEDULING AND PENTOBARBITAL. 103652 13-04
- SCHIZO-AFFECTIVES**  
A COMPARISON OF LITHIUM CARBONATE AND CHLORPROMAZINE IN THE TREATMENT OF EXCITED SCHIZO-AFFECTIVES. (UNPUBLISHED PAPER). 106066 13-08
- SCHIZOPHRENIA**  
DRUGS IN SCHIZOPHRENIA. 077701 13-08  
THE CLINICAL EFFECTS OF INTRAMUSCULAR THIOTHIXENE AND TRIFLUOPERAZINE IN CHRONIC SCHIZOPHRENIA: A COMPARATIVE STUDY. 077822 13-08  
AN EVALUATION OF METIAPINE IN CHRONIC SCHIZOPHRENIA. 077913 13-08  
EFFECT OF LEVOMEPRIMAZINE ON HIGHER NERVOUS ACTIVITY IN SCHIZOPHRENIA. 086571 13-07  
ECG PICTURE IN THE COURSE OF TREATMENT OF SCHIZOPHRENIA WITH PHENOTHIAZINE DERIVATIVES. 086596 13-13  
A CLINICAL TRIAL OF AN ANTISEROTONIN COMPOUND, CINANSERIN, IN CHRONIC SCHIZOPHRENIA. 086937 13-08  
A DOUBLE-BLIND COMPARISON OF MOLIDONE AND TRIFLUOPERAZINE IN THE TREATMENT OF ACUTE SCHIZOPHRENIA. 087033 13-08  
LONG-ACTING PHENOTHIAZINES IN SCHIZOPHRENIA. 087239 13-15  
A CONTROLLED STUDY OF MESORIDAZINE: AN EFFECTIVE TREATMENT FOR SCHIZOPHRENIA. 087267 13-08

# Subject Index

- TRANLYCYPROMINE TRIFLUOPERAZINE COMBINATION IN THE TREATMENT OF SCHIZOPHRENIA. 088265 13-08
- LONG-ACTING PHENOTHIAZINES IN SCHIZOPHRENIA. 088351 13-17
- POSSIBLE ETIOLOGY OF SCHIZOPHRENIA: PROGRESSIVE DAMAGE TO THE NORADRENERGIC REWARD SYSTEM BY 6-HYDROXYDOPAMINE. 088491 13-04
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: A STUDY OF THE ADRENOCORTICAL RESPONSE TO INTRAVENOUSLY ADMINISTERED INSULIN AND ACTH. 091370 13-08
- SCHIZOPHRENIA - TYING UP MORE LOOSE ENDS. 093799 13-08
- MODE OF ACTION OF D-PENICILLAMINE IN CHRONIC SCHIZOPHRENIA. 095150 13-08
- LIFE HISTORY AND SYMPTOMS IN SCHIZOPHRENIA. 095221 13-08
- BIOCHEMICAL RESEARCH IN SCHIZOPHRENIA. 095478 13-08
- SOME ASPECTS OF OUR RESEARCH STUDIES ON SCHIZOPHRENIA. 098978 13-08
- DECANOATE OF FLUPHENAZINE, A NEUROLEPTIC WITH RETARDED ACTION, IN THE TREATMENT OF SCHIZOPHRENIA. 098982 13-08
- CURRENT STATUS OF CHEMOTHERAPY OF SCHIZOPHRENIA. 099011 13-08
- THIORIDAZINE IN SCHIZOPHRENIA. 099682 13-15
- LONG-ACTING PHENOTHIAZINES IN SCHIZOPHRENIA. 099735 13-08
- PHARMACOTHERAPY IN SCHIZOPHRENIA. 099740 13-08
- DECARBOXYLATION OF RADIOACTIVE DOPA BY ERYTHROCYTES IN SCHIZOPHRENIA. 100598 13-14
- ORTHOMOLECULAR TREATMENT: A BIOCHEMICAL APPROACH TO TREATMENT OF SCHIZOPHRENIA. 101158 13-08
- TRIAL OF MAINTENANCE THERAPY IN SCHIZOPHRENIA. 101527 13-08
- SCHIZOPHRENIA - KEEPING THE SHAKES DOWN. 102256 13-08
- EXPERIENCE WITH COMPLEX THERAPY FOR PATIENTS WITH THE FORM OF SCHIZOPHRENIA. 102653 13-08
- EXPERIENCE WITH TREATMENT OF INDOLENT SCHIZOPHRENIA WITH THE CENESTHOPATHIC HYPOCHONDRIACAL SYNDROME. 102669 13-08
- NICOTINIC ACID AND NICOTINAMIDE IN THE TREATMENT OF CHRONIC SCHIZOPHRENIA. 102833 13-08
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA. 105600 13-08
- COMPARISON OF THE THERAPEUTIC RESULTS OF CLOTHIAPIN AND PERPHENAZINE IN SCHIZOPHRENIA. 105829 13-08
- OUR EXPERIENCE WITH CLOTHIAPIN IN SCHIZOPHRENIA. 105923 13-08
- CLINICAL EXPERIENCE WITH FLUPENTHIXOL IN THE TREATMENT OF CHRONIC SCHIZOPHRENIA. 105930 13-08
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: CHANGES IN THE DIURNAL RHYTHM AND PSYCHIATRIC MENTAL STATUS ON WITHDRAWAL OF DRUGS. 106050 13-08
- DIABETES IN CHRONIC SCHIZOPHRENIA. 108704 13-15
- DRUG TREATMENT IN SCHIZOPHRENIA. 108835 13-08
- MEGAVITAMIN-B-3 THERAPY FOR SCHIZOPHRENIA. 108837 13-08
- A COMPARISON OF CHLORPROTHIXENE AND HALOPERIDOL IN ACUTE SCHIZOPHRENIA. 108838 13-08
- COMBINED TREATMENT WITH ECT AND ANTIPSYCHOTIC DRUGS IN SCHIZOPHRENIA. 108959 13-08
- THE SIGNIFICANCE OF WORK THERAPY IN PARANOID SCHIZOPHRENIA. 111979 13-08
- COPPER SALTS IN TREATMENT OF SCHIZOPHRENIA AND THEIR EFFECT ON INSULIN THERAPY. 113429 13-08
- ATTEMPT TO ADMINISTER VECTOR CARDIOGRAPHY IN SCHIZOPHRENIA IN AN EVALUATION OF THE QRS COMPLEX. 118205 13-08

# Psychopharmacology Abstracts

- THE ASSOCIATION OF BENZODIAZEPINE AND PHENOTHIAZINE IN SCHIZOPHRENIA. 121458 13-08
- SCHIZOPHRENIC EFFECTS OF THIOPROPERAZINE ON THE URINARY EXCRETION AND CONCENTRATION IN THE CEREBROSPINAL FLUID OF 5-HYDROXYINDOLEACETIC ACID IN THE CHRONIC SCHIZOPHRENIC. 074835 13-13
- OXYPERTINE AND THIOTHIXENE IN NEWLY ADMITTED SCHIZOPHRENIC PATIENTS. 077932 13-08
- THE EFFECTS OF PHENOTHIAZINE MEDICATION ON SKIN CONDUCTANCE AND HEART RATE IN SCHIZOPHRENIC PATIENTS. 085015 13-08
- CLINICAL AND ELECTROENCEPHALOGRAPHIC EFFECTS OF CINANSERIN IN SCHIZOPHRENIC AND MANIC PATIENTS. 088153 13-07
- RELATION OF HYPERMAGNEAEMIA TO ACTIVITY AND NEUROLEPTIC DRUG THERAPY IN SCHIZOPHRENIC STATES. 088729 13-13
- FLUPENTHIXOL (FLUANXOL) IN THE TREATMENT OF APATHIC SYNDROMES OF SCHIZOPHRENIC ORIGIN. 089300 13-08
- THIOTHIXENE (NAVANE) IN THE TREATMENT OF APATHIC SYNDROMES OF SCHIZOPHRENIC ORIGIN. 089303 13-08
- EVALUATION OF EFFICACY OF PSYCHOTROPIC AGENTS IN SCHIZOPHRENIC POPULATIONS: METHODOLOGICAL PROCEDURES. 095536 13-08
- PROLIXIN ENANTHATE AND THORAZINE STELAZINE REGIMENS IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS. AN EXPERIMENTAL EVALUATION. 096017 13-08
- COMBINED INTRAMUSCULAR ADMINISTRATION OF DEPOT FLUPHENAZINE AND BENZOTROPINE MESYLATE IN CHRONIC SCHIZOPHRENIC PATIENTS. 098602 13-08
- PIMOZIDE IN CHRONIC SCHIZOPHRENIC PATIENTS. 098613 13-08
- IMIPRAMINE IN PRESCHOOL AUTISTIC AND SCHIZOPHRENIC CHILDREN. 101536 13-11
- TREATMENT OF SCHIZOPHRENIC PATIENTS WITH SIDNOCARB. 102654 13-07
- ON THE ANALYSIS OF SIDE (NEUROLEPTIC) MANIFESTATIONS IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS WITH MAJEPTIL. 102657 13-08
- EVALUATION OF CLINICAL EFFICACY OF PIMOZIDE AS MAINTENANCE THERAPY IN CHRONIC SCHIZOPHRENIC PATIENTS. 103326 13-07
- A PILOT STUDY OF PIMOZIDE IN CHRONIC SCHIZOPHRENIC PATIENTS. 103327 13-07
- SOMATOSENSORY EVOKED POTENTIAL CHANGES DURING THIOTHIXENE TREATMENT IN SCHIZOPHRENIC PATIENTS. 105008 13-08
- CLINICAL EXPERIENCE WITH CLOTHIAPIN (ENTUMIN) IN SCHIZOPHRENIC PSYCHOSES. 105924 13-08
- THIOTHIXENE IN SCHIZOPHRENIC PSYCHOSES. 105927 13-08
- EFFECT OF THIOTHIXENE ON DIGITAL COMPUTER SLEEP PRINTS OF SCHIZOPHRENIC PATIENTS. 108569 13-14
- EFFECTS OF FLUPHENAZINE HYDROCHLORIDE ON DIGITAL COMPUTER SLEEP PRINTS OF SCHIZOPHRENIC PATIENTS. 108701 13-08
- PSYCHOTROPIC DRUGS OF PROLONGED EFFECT IN REHABILITATION AND READAPTATION OF SCHIZOPHRENIC PATIENTS. 111738 13-08
- THE CONTRIBUTION OF FLUPHENAZINE ENANTHATE AND DECANOATE IN THE PREVENTION OF READMISSION OF SCHIZOPHRENIC PATIENTS. 115399 13-08
- METIAPINE, A DOUBLE-BLIND EVALUATION IN CHRONIC SCHIZOPHRENIC PATIENTS. 117022 13-08
- USE OF EXPERIMENTAL METHODS TO DETERMINE SHIFTS IN THE STATE OF SCHIZOPHRENIC PATIENTS DURING TREATMENT. 118010 13-08
- CHOLINESTERASE ACTIVITY IN THE ERYTHROCYTES AND BLOOD PLASMA OF SCHIZOPHRENIC PATIENTS DURING TREATMENT WITH DIMETHYLAMINOETHANOLIC ESTERS. 118204 13-08
- SOMATOSENSORY EVOKED POTENTIAL CHANGES DURING THIOTHIXENE TREATMENT IN SCHIZOPHRENIC PATIENTS. 125568 13-08
- SCHIZOPHRENICS DISCONTINUATION OF CHEMOTHERAPY FOR CHRONIC SCHIZOPHRENICS. 069197 13-08

- EVALUATION OF THE HYPNOTIC PROPERTIES OF PROMETHAZINE ON CHRONIC SCHIZOPHRENICS. 077430 13-08
- A PILOT STUDY ON THE USE OF AL-1021 IN THE TREATMENT OF ACUTE SCHIZOPHRENICS. 078944 13-08
- INFLUENCE OF SEX OF HOSPITALIZED SCHIZOPHRENICS ON THERAPEUTIC DOSAGE LEVELS OF NEUROLEPTICS. 079314 13-17
- URINARY STUDIES OF SCHIZOPHRENICS AND CONTROLS. 097447 13-13
- COMPARISON OF THIORIDAZINE TABLETS TO CHLORPROMAZINE SPANSULES IN THE MAINTENANCE CARE OF CHRONIC SCHIZOPHRENICS. 097554 13-07
- A PILOT STUDY OF GP-45795 IN CHRONIC SCHIZOPHRENICS. 098603 13-08
- A DOUBLE-BLIND CONTROLLED TRIAL OF THIOTHIXENE AND PERPHENAZINE IN CHRONIC SCHIZOPHRENICS SHOWN TO REQUIRE MAINTENANCE THERAPY. 100807 13-08
- CLINICAL TOXICOLOGICAL AND ELECTROENCEPHALOGRAPHIC STUDY WITH SCH-12679 IN CHRONIC SCHIZOPHRENICS. 103325 13-07
- A CONTROLLED STUDY OF LITHIUM VS. CHLORPROMAZINE IN ACUTE SCHIZOPHRENICS. 105885 13-08
- THE EFFECTS OF CHLORPROMAZINE ON FINE PSYCHOMOTOR PERFORMANCE WITH A SIMULTANEOUS SECONDARY TASK IN SCHIZOPHRENICS. 105926 13-08
- PHENOTHIAZINE EFFECTS ON AUDITORY SIGNAL DEFLECTION IN PARANOID AND NONPARANOID SCHIZOPHRENICS. 106918 13-08
- CHLORPROMAZINE METABOLISM IN CHRONIC SCHIZOPHRENICS. 107592 13-14
- A PILOT STUDY OF AL-1612 IN CHRONIC SCHIZOPHRENICS. 117024 13-08
- SCHOOL**
- THE EFFECTIVENESS OF METHYLPHENIDATE HYDROCHLORIDE (RITALIN) ON LEARNING AND BEHAVIOR IN PUBLIC SCHOOL EDUCABLE MENTALLY RETARDED CHILDREN. 087272 13-14
- SCHOOL PHOBIA: DIAGNOSTIC CONSIDERATIONS IN THE LIGHT OF IMIPRAMINE EFFECTS. 093262 13-14
- DEXTROAMPHETAMINE RESPONSIVE BEHAVIOR DISORDER IN SCHOOL CHILDREN. 100813 13-14
- THE EFFECT OF METHYLPHENIDATE ON BEHAVIOR OF THREE SCHOOL CHILDREN: A PILOT INVESTIGATION. 108231 13-11
- SCIENCE**
- BEHAVIORAL SCIENCE IN PEDIATRIC MEDICINE. 118690 13-14
- SCIENCES**
- COOPERATIVE STUDIES IN MENTAL HEALTH AND BEHAVIORAL SCIENCES. 109315 13-17
- SCINTILLATION**
- INTERFERENCE OF CHEMOLUMINESCENCE WITH 3H SCINTILLATION COUNTING. 105405 13-06
- SCLEROSIS**
- AMYOTROPHIC LATERAL SCLEROSIS: METABOLISM OF CENTRAL MONOAMINES AND TREATMENT WITH L-DOPA (UNPUBLISHED PAPER). 093081 13-13
- SCOPOLAMINE**
- ATTENUATION OF STIMULUS SENSITIVITY BY SCOPOLAMINE. 079533 13-04
- DIFFERENTIAL SENSITIVITY OF FRONTAL RATS TO D-AMPHETAMINE AND SCOPOLAMINE. 082771 13-04
- SPONTANEOUS ACTIVITY AND WATER INTAKE IN THE RAT UNDER THE EFFECTS OF SCOPOLAMINE HBR AND MAGNESIUM PEMOLINE. 086186 13-04
- INTERACTIONS OF SCOPOLAMINE AND PHYSOSTIGMINE WITH ECS AND ONE TRIAL LEARNING. 088582 13-04
- ATTENUATION OF STIMULUS SENSITIVITY INDUCED BY SCOPOLAMINE. 095197 13-04
- COMPARATIVE LEARNING IMPAIRMENT AND AMNESIA BY SCOPOLAMINE PHENCYCLIDINE, AND KETAMINE. 101352 13-04
- EFFECTS OF SCOPOLAMINE ON HIPPOCAMPAL THETA AND CORRELATED DISCRIMINATION PERFORMANCE. 102390 13-04
- EFFECTS OF SCOPOLAMINE INJECTION DURING CS-US INTERVAL ON CONDITIONING. 105766 13-04
- EFFECT OF PHYSOSTIGMINE ON THE INHIBITORY ACTION OF SCOPOLAMINE IN MAN. 105918 13-14
- ON THE INTERACTION OF SCOPOLAMINE AND PHYSOSTIGMINE IN MAN. 105995 13-14
- EFFECTS OF POST-TRIAL INJECTIONS OF SCOPOLAMINE AND ESERINE ON ACQUISITION OF A SIMULTANEOUS BRIGHTNESS DISCRIMINATION. 111052 13-04
- EFFECTS OF TERTIARY VS QUATERNARY SCOPOLAMINE ON WATER AND AIR DRINKING IN RATS. 123639 13-04
- SCORE**
- LABORATORY PREDICTIONS OF INFANTILE AUTISM BASED ON 5-HYDROXYTRYPTAMINE EFFLUX FROM BLOOD PLATELETS AND THEIR CORRELATION WITH THE RIMLAND E-2 SCORE. 082634 13-13
- SCREEN**
- A SIMPLE AND SPECIFIC SCREEN FOR BENZODIAZEPINE LIKE DRUGS. 114433 13-06
- SCREENING**
- SCREENING FOR AMPHETAMINE IN HUMAN URINE. 082816 13-06
- METHYLPHENIDATE ANTAGONISM IN MICE AS A RAPID SCREENING TEST FOR NEUROLEPTIC DRUGS. 123275 13-04
- SEARCH**
- THE USE OF DRUGS IN THE SEARCH FOR A HUMAN APHRODISIAC EXPERIENCE. 094689 13-17
- A SEARCH FOR UNCORRELATED THIN LAYER CHROMATOGRAPHIC SYSTEMS FOR THE IDENTIFICATION OF BASIC DRUGS. 115897 13-06
- SECOBARBITAL**
- EFFECTS OF QUINALBARBITONE (SECOBARBITAL) AND NITRAZEPAM ON THE EEG IN MAN: QUANTITATIVE INVESTIGATIONS. 082826 13-13
- POST-MORTEM CHANGES IN TISSUE LEVELS OF SODIUM SECOBARBITAL. 098634 13-03
- METHODOLOGIC CONSIDERATIONS OF THE EVALUATION OF HYPNOTICS IN MAN: A BIOLOGIC ASSAY OF PENTOBARBITAL AND SECOBARBITAL. 100261 13-16
- THE HYPNOTIC EFFECTS OF CODEINE AND SECOBARBITAL AND THEIR INTERACTION IN MAN. 104365 13-14
- SECOND-ORDER**
- EFFECTS OF AMPHETAMINE AND CHLORPROMAZINE ON SECOND-ORDER ESCAPE BEHAVIOR IN SQUIRREL MONKEYS. 102189 13-04
- SECONDARY**
- SECONDARY GLUTETHIMIDE ADDICTION IN ENDOGENOUS ATYPICAL PSYCHOSES. 087021 13-15
- THE EFFECTS OF CHLORPROMAZINE ON FINE PSYCHOMOTOR PERFORMANCE WITH A SIMULTANEOUS SECONDARY TASK IN SCHIZOPHRENICS. 105926 13-08
- SECRETION**
- EFFECT OF AMINOGUANIDINE, CHLORPROMAZINE AND NSD-1055 ON GASTRIC SECRETION AND ULCERATION IN THE SHAY RAT. 089442 13-03
- SEDATION**
- THE ACTION OF LYSERGIC ACID DIETHYLAMIDE (LSD-25) ON CONDITIONING AND SEDATION. 086858 13-04
- REDUCING NIGHT SEDATION IN PSYCHOGERIATRIC WARDS. 110156 13-17
- SEDATIVE**
- ANTICONSULSIVE SEDATIVE TREATMENT OF DELIRIUM ALCOHOLICUM. 101754 13-11
- SEDATIVE DRUGS IN RESPIRATORY FAILURE. 110043 13-15
- ON THE SEDATIVE ACTION OF THE KAVA RHIZOME (PIPER-METHYST). 123278 13-03
- SEDATIVES**
- THE ACTION OF SEDATIVES ON BRAIN STEM OCULOMOTOR SYSTEMS IN MAN. 082861 13-13
- LITHIUM SALTS AS SEDATIVES: AN INVESTIGATION INTO THE POSSIBLE EFFECT OF LITHIUM ON ACUTE ANXIETY. 100811 13-10
- DRUG INTERFERENCE WITH MEASUREMENT OF ADRENAL HORMONES IN URINE: ANALGESICS AND TRANQUILIZER SEDATIVES. 104427 13-13

# Subject Index

# Psychopharmacology Abstracts

- ANXIOLYTIC SEDATIVES, I. SYNTHESIS AND PHARMACOLOGY OF BENZODIAZEPINOXAZOLE DERIVATIVES AND ANALOGS.** 114765 13-01
- SEDUXEN**  
USE OF AMPULLIZED SEDUXEN IN TREATMENT OF EPILEPTIC STATUS. 113747 13-11
- SEIZURE**  
RESERPINE AND ACETAZOLAMIDE IN MAXIMUM ELECTROSHOCK SEIZURE IN THE RAT. 082880 13-03  
DOPA REVERSAL OF RESERPINE ENHANCEMENT OF AUDIOGENIC SEIZURE SUSCEPTIBILITY IN MICE. 088577 13-03  
INTRAVENOUS DIAZEPAM IN THE TREATMENT OF PROLONGED SEIZURE ACTIVITY IN NEONATES AND INFANTS. 101560 13-11  
EFFECT OF ALDRIN ON THE CONDITION AVOIDANCE RESPONSE AND ELECTROSHOCK SEIZURE THRESHOLD OF OFFSPRING FROM ALDRIN TREATED MOTHER. 104791 13-04  
RELATIONSHIP BETWEEN BRAIN MONOAMINES AND SEIZURE SUSCEPTIBILITY. (PH.D.DISSERTATION). 109145 13-13  
LONG-TERM SEIZURE AFTER STATUS-EPILEPTICUS WITH DIAZEPAM. 115899 13-13
- SEIZURES**  
RED NUCLEUS FAST ACTIVITY AND SIGNS OF PARADOXICAL SLEEP APPEARING DURING THE EXTINCTION OF EXPERIMENTAL SEIZURES. 098151 13-03  
METHAMPHETAMINE EFFECTS UPON AVOIDANCE BEHAVIOR DURING LIMBIC SEIZURES IN THE CAT. 104797 13-04  
OBSERVATIONS ON THE EFFECT OF TEGRETOL IN SALAAM SEIZURES IN CHILDREN. 123890 13-07
- SELECTIVE**  
THE INFLUENCE OF SELECTIVE TEMPORAL LOBE DAMAGE ON BEHAVIOR AND THE RESPONSE TO LYSERGIC ACID DIETHYLAMIDE. 073494 13-05  
PRELIMINARY EVIDENCE THAT SYROSGOPINE PRODUCES A SELECTIVE DEPLETION OF CENTRAL STORES OF SYMPATHOMIMETIC AMINES. 106422 13-03  
A SELECTIVE EFFECT OF P-CHLOROPHENYLALANINE ON FIXED-RATIO RESPONDING. 106689 13-04  
SELECTIVE EFFECT OF DIAZEPAM ON CERTAIN CENTRAL SYMPATHETIC COMPONENTS. 107963 13-03  
ON THE SELECTIVE EFFECT OF THE NEW ANTIDEPRESSANT FLUORACIZINE ON THE ACTIVITY OF PYRIDINE DEHYDROGENASES IN THE BRAIN OF RATS. 111703 13-03  
BIOCHEMICAL AND PHARMACOLOGICAL PROPERTIES OF P-AMINO-GAMMA-MORPHOLINOBUTYROPHENONE (FG-5310), A NEW SELECTIVE MAO INHIBITOR. 123272 13-03  
A COMPARISON OF FG-5310, A NEW SELECTIVE MONOAMINE OXIDASE INHIBITOR, AND OTHER MAO INHIBITORS ON THE BLOOD PRESSURE RESPONSE TO TYRAMINE. 123287 13-03
- SELECTIVELY**  
EFFECTS OF RIBONUCLEASE ON ACQUISITION AND RETENTION OF ESCAPE AVOIDANCE BEHAVIOR IN A SELECTIVELY BRED RAT STRAIN. 078453 13-04  
SOCIAL BEHAVIOR OF MONKEYS SELECTIVELY DEPLETED OF MONOAMINES. 101934 13-04
- SELF-ADMINISTRATION**  
NALORPHINE INDUCED CHANGES IN MORPHINE SELF-ADMINISTRATION IN RHESUS MONKEYS. 082719 13-04  
PSYCHOMOTOR STIMULANT SELF-ADMINISTRATION AS A FUNCTION OF DOSAGE PER INJECTION IN THE RHESUS MONKEY. 111146 13-04
- SELF-EXPERIMENT**  
ALTERATION OF BEHAVIOURAL CHANGES INDUCED BY 3,4,5 TRIMETHOXYPHENYLETHYLAMINE (MESCALINE) BY PRETREATMENT WITH 2,4,5 TRIMETHOXYPHENYLETHYLAMINE: A SELF-EXPERIMENT. 102193 13-12
- SELF-INDUCED**  
ACCIDENTAL AND SELF-INDUCED POISONING IN GALVESTON COUNTY 1958-1969. 088503 13-15
- SELF-PUNITIVE**  
THE EFFECTS OF CHLORPROMAZINE ON SELF-PUNITIVE BEHAVIOR. 098483 13-04
- SELF-STARVATION**  
SELF-STARVATION AND REWARDING BRAIN STIMULATION: EFFECTS OF CHLORPROMAZINE AND PENTOBARBITAL. 075046 13-04
- SELF-STIMULATION**  
EFFECTS OF NICOTINE ON SELF-STIMULATION IN RATS. 082722 13-04  
EFFECT OF TRIMETHADIONE ON THE SELF-STIMULATION PHENOMENON. 100507 13-04  
EFFECT OF 6-HYDROXYDOPAMINE ON ELECTRICAL SELF-STIMULATION OF THE BRAIN. 104539 13-04  
COMPARATIVE STUDY OF THE EFFECT OF TRICYCLIC ANTIDEPRESSANTS ON THE SELF-STIMULATION REACTION OF THE BRAIN IN RATS. 111292 13-03
- SENILE**  
EFFECTIVENESS OF VARIOUS TRANQUILLISERS IN THE MANAGEMENT OF SENILE RESTLESSNESS. 088488 13-14
- SENILEX**  
SENILEX IN THE TREATMENT OF GERIATRIC PATIENTS. 077824 13-11
- SENSITIVITY**  
ATTENUATION OF STIMULUS SENSITIVITY BY SCOPOLAMINE. 079533 13-04  
DIFFERENTIAL SENSITIVITY OF FRONTAL RATS TO D-AMPHETAMINE AND SCOPOLAMINE. 082771 13-04  
LESIONS IN THE MEDIAL FOREBRAIN BUNDLE: RELATIONSHIP BETWEEN PAIN SENSITIVITY AND TELENCEPHALIC CONTENT OF SEROTONIN. 086171 13-03  
SENSITIVITY TO HALOPERIDOL OF CAUDATE NEURONES EXCITED BY NIGRAL STIMULATION. 089026 13-03  
ATTENUATION OF STIMULUS SENSITIVITY INDUCED BY SCOPOLAMINE. 095197 13-04  
MEASUREMENT OF PHARMACOLOGICAL DEPRESSION OF EXPLORATORY ACTIVITY IN MICE: A CONTRIBUTION TO THE PROBLEM OF TIME ECONOMY AND SENSITIVITY. 104704 13-06  
SODIUM RETENTION AND NORADRENALINE SENSITIVITY OF THE PUPILS AND OF THE CARDIOVASCULAR SYSTEM. 106149 13-03
- SENSITIZATION**  
MORPHINE WITHDRAWAL AGGRESSION: SENSITIZATION BY AMPHETAMINES. 111142 13-04
- SENSORY**  
EFFECTS OF CYPRNOPHORINE HYDROCHLORIDE ON SENSORY REINFORCEMENT IN THE RAT. 099685 13-04  
SENSORY INFLUENCES UPON AMPHETAMINE TOLERANCE. 106694 13-04  
FURTHER OBSERVATION ON THE ENHANCEMENT BY MORPHINE OF THE CENTRAL DESCENDING INHIBITORY INFLUENCE ON SPINAL SENSORY TRANSMISSION. 125358 13-03
- SEPARATION**  
THE CHROMATOGRAPHIC SEPARATION OF MIXTURES OF BENZODIAZEPINE DRUGS. 115898 13-06  
SEPARATION OF THE EFFECTS OF MAGNESIUM PEMOLINE ON AVOIDANCE LEARNING AND MEMORY FROM ITS CENTRAL NERVOUS SYSTEM STIMULANT PROPERTIES BY CHLORDIAZEPOXIDE. 125410 13-04
- SEPTAL**  
EFFECTS OF SEPTAL AREA AND CINGULATE CORTEX LESIONS ON OPIATE ADDICTION BEHAVIOR IN RATS. 085333 13-04  
DECREASED SEPTAL FOREBRAIN AND LATERAL HYPOTHALAMIC REWARD AFTER ALPHA-METHYL-P-TYROSINE. 088681 13-04  
EFFECT OF TEMPORARY SEPTAL DYSFUNCTION ON CONDITIONING AND PERFORMANCE OF FEAR RESPONSES IN RATS. 097448 13-03  
JOINT EFFECTS OF MEDIAL SEPTAL LESIONS AND AMYLOBARBITONE INJECTIONS ON RESISTANCE TO EXTINCTION IN THE RAT. 106392 13-04
- SEPTUM**  
CHARACTEROPATHIC CHANGES AND EXPRESSIVE APHASIA IN A CHILD WITH CONGENITAL AGENESIS OF THE SEPTUM PELLUCIDUM. 122951 13-11
- SEQUELAE**  
CASE OF DELIRIUM FOLLOWING RESUSCITATION, WITH MILD PSYCHOORGANIC SEQUELAE. 118222 13-09

## SEROTONIN

- THE SUBCELLULAR DISTRIBUTION OF ENDOGENOUS AND EXOGENOUS SEROTONIN IN BRAIN TISSUE: COMPARISON OF SYNAPTOSOMES STORING SEROTONIN, NOREPINEPHRINE, AND GAMMA-AMINOBUTYRIC ACID. 077855 13-03
- EFFECTS OF CHLORAL HYDRATE, PARALDEHYDE, AND ETHANOL ON THE METABOLISM OF (14C) SEROTONIN IN THE RAT. 077868 13-03
- P-CHLOROAMPHETAMINE: SPECIES DIFFERENCES IN THE RATE OF DISAPPEARANCE AND THE LOWERING OF CEREAL SEROTONIN. 077869 13-03
- THE EFFECT OF DELTA1-TETRAHYDROCANNABINOL ON SEROTONIN METABOLISM IN THE RAT BRAIN. 077902 13-03
- NARCOTIC TOLERANCE AND DEPENDENCE: LACK OF RELATIONSHIP WITH SEROTONIN TURNOVER IN THE BRAIN. 082727 13-03
- SEROTONIN ACCUMULATION AFTER MONOAMINE OXIDASE INHIBITION. 082792 13-03
- A SIMPLE PROCEDURE FOR CALCULATING THE SYNTHESIS RATE OF NOREPINEPHRINE, DOPAMINE AND SEROTONIN IN RAT BRAIN. 082879 13-06
- THE SEROTONIN CATECHOLAMINE - DREAM BICYCLE: A CLINICAL STUDY (UNPUBLISHED PAPER). 085951 13-13
- LESIONS IN THE MEDIAL FOREBRAIN BUNDLE: RELATIONSHIP BETWEEN PAIN SENSITIVITY AND TELECEPHALIC CONTENT OF SEROTONIN. 086171 13-03
- STIMULATION OF (14C) SEROTONIN SYNTHESIS FROM (14C) TRYPTOPHAN BY MESCALINE IN RAT PINEAL ORGAN CULTURES. 088702 13-03
- PHYSICAL DEPENDENCE ON MORPHINE FAILS TO INCREASE SEROTONIN TURNOVER RATE IN RAT BRAIN. 088994 13-03
- ACTIVATION OF BRAIN SEROTONIN METABOLISM BY HEAT: ROLE OF MIDBRAIN RAPHE NEURONS. 092374 13-03
- INTERACTION OF SEROTONIN ANTAGONISTS WITH HARMALINE INDUCED CHANGES IN OPERANT BEHAVIOR AND BODY TEMPERATURE IN THE RAT. 098160 13-03
- PLASMA CORTICOSTERONE CHANGES FOLLOWING ALTERATIONS IN BRAIN NOREPINEPHRINE AND SEROTONIN. 098290 13-03
- EFFECT OF L-DOPA TREATMENT ON BRAIN SEROTONIN METABOLISM IN DEPRESSED PATIENTS. 098686 13-13
- THE CENTRAL METABOLISM OF SEROTONIN IN THE CAT DURING INSOMNIA: A NEUROPHYSIOLOGICAL AND BIOCHEMICAL STUDY AFTER ADMINISTRATION OF P-CHLOROPHENYLALANINE OR DESTRUCTION OF THE RAPHE SYSTEM. 099261 13-03
- THE EFFECT OF YOHIMBINE ON BRAIN SEROTONIN METABOLISM, MOTOR BEHAVIOR AND BODY TEMPERATURE OF THE RAT. 099648 13-03
- PHARMACOLOGICAL COMPARISON OF PROSTAGLANDIN-F-2-ALPHA, SEROTONIN AND NOREPINEPHRINE ON CEREBROVASCULAR TONE OF MONKEY. 099653 13-03
- EVIDENCE FOR INHIBITION BY BRAIN SEROTONIN OF MOUSE KILLING BEHAVIOR IN RATS. 099794 13-04
- PERSISTENT INCREASE IN BRAIN SEROTONIN TURNOVER AFTER CHRONIC ADMINISTRATION OF LSD IN THE RAT. 099828 13-03
- INCREASED SEROTONIN TURNOVER IN THE ACUTELY MORPHINE TREATED RAT. 103648 13-03
- INDUCTION OF BIZARRE BEHAVIOUR IN RATS BY P-CHLOROAMPHETAMINE, A SEROTONIN DEPLETOR, AFTER REPEATED DRUG ADMINISTRATION. 104793 13-04
- THE EFFECT OF AMITRIPTYLINE ON THE BEHAVIOUR AND EEG OF RATS AFTER DEPLETION OF SEROTONIN BY PARA-CHLOROPHENYLAMINE. 106093 13-03
- BRAIN NOREPINEPHRINE AND SEROTONIN LEVELS FOLLOWING REM SLEEP DEPRIVATION IN THE RAT. 106492 13-03
- THE EFFECT OF CAFFEINE AND THEOPHYLLINE ON THE DISPOSITION OF BRAIN SEROTONIN IN THE RAT. 107161 13-03
- RELEASE OF CREATINE PHOSPHOKINASE FROM MUSCLE - 1. EFFECT OF POLYMYXIN B, COMPOUND 48/80, AND SEROTONIN. 108719 13-05
- EFFECT OF LITHIUM ON SEROTONIN LEVEL IN THE BRAIN OF WHITE MICE. 111294 13-03

## EFFECT OF MELIPRAMINE ON SEROTONIN METABOLISM IN THE RAT BRAIN.

- SEROTONIN AND SEVERE AFFECTIVE DISORDERS. 111765 13-03
- DOUBLE-BLIND STUDY OF THE OREXIGENIC EFFECT OF A SEROTONIN INHIBITOR IN ANOREXIC CHILDREN. 122374 13-09
- EFFECTS OF SEROTONIN (5-HT) AND SOME RELATED INDOLE COMPOUNDS IN A MAMMALIAN SYMPATHETIC GANGLION. 125289 13-13
- 125596 13-03

## SEROTONINERGIC

- ROLE OF CENTRAL SEROTONINERGIC PROCESSES IN DEVELOPMENT OF HEAD TWITCHES IN MICE AND RATS UNDER THE INFLUENCE OF TRYPTOPHAN. 109920 13-02

## SERUM

- PYREXIA AND RAISED SERUM CREATINE PHOSPHOKINASE AFTER AMYLOBARBITONE. 086511 13-15
- EFFECTS OF INFUSED TESTOSTERONE ON MENTAL PERFORMANCES AND SERUM LH. 086596 13-14
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: A STUDY OF THE ADRENOCORTICAL RESPONSE TO INTRAVENOUSLY ADMINISTERED INSULIN AND ACTH. 091370 13-08
- SERUM DOPAMINE-BETA-HYDROXYLASE: DECREASE AFTER CHEMICAL SYMPATHECTOMY. 099018 13-03
- THE ESTIMATION OF LITHIUM IN SERUM. 099315 13-16
- LSD INDUCED DECREASE IN SERUM PROLACTIN IN RATS. 100220 13-03
- THE INFLUENCE OF 1,5 DICAFFEYLQUINIC ACID ON SERUM LIPIDS IN THE EXPERIMENTALLY ALCOHOLISED RAT. 100334 13-03
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA. 105600 13-08
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: CHANGES IN THE DIURNAL RHYTHM AND PSYCHIATRIC MENTAL STATUS ON WITHDRAWAL OF DRUGS. 106050 13-08
- SERUM FOLIC ACID AND PHENYTOIN LEVELS IN PERMANENTLY HOSPITALIZED EPILEPTIC PATIENTS RECEIVING ANTICONVULSANT DRUG THERAPY. 108727 13-15

## SETTINGS

- DOXEPIN IN THE TREATMENT OF PSYCHONEUROTIC PATIENTS: A COMPARISON BETWEEN TWO CLINICAL SETTINGS. 077431 13-14

## SEX

- INFLUENCE OF SEX OF HOSPITALIZED SCHIZOPHRENICS ON THERAPEUTIC DOSAGE LEVELS OF NEUROLEPTICS. 079314 13-17
- DIFFERENCES AMONG AGE AND SEX GROUPS WITH RESPECT TO CARDIOVASCULAR CONDITIONING AND REACTIVITY. (UNPUBLISHED PAPER). 082516 13-13
- SEX DIFFERENCES IN BRAIN DEOXYRIBONUCLEIC ACID AND CHOLINESTERASE ACTIVITY IN RATS. 089332 13-04
- SEX DIFFERENCES IN THE USE OF MOOD MODIFYING DRUGS: AN EXPLANATORY MODEL. 100651 13-14
- ADRENOCORTICAL FUNCTION AND SEX DIFFERENCES IN ACQUISITION AND EXTINCTION OF ACTIVE AVOIDANCE BEHAVIOR IN THE RAT. 104457 13-04
- SEX DIFFERENCE IN THE METABOLISM OF HEXOBARBITAL IN THE MONGOLIAN GERBIL (MERIONES-UNGUICULATUS). 125329 13-03

## SEXUAL

- NEONATAL ADMINISTRATION OF ANDROSTENEDIONE, TESTOSTERONE OR TESTOSTERONE PROPIONATE: EFFECTS ON OVULATION, SEXUAL RECEPTIVITY AND AGGRESSIVE BEHAVIOR IN FEMALE MICE. 088581 13-04
- CLINICAL AND EXPERIMENTAL PSYCHOLOGICAL INVESTIGATIONS OF THE EFFECT OF ANTIANDROGEN CYPROTERONE ACETATE IN SLIGHTLY IRRESPONSIBLE AND GROSSLY IRRESPONSIBLE SEXUAL DELINQUENTS. 088693 13-11
- SEXUAL BEHAVIOR DURING L-DOPA TREATMENT FOR PARKINSONISM. 091448 13-10
- INCREASED SEXUAL DESIRE AT THE MENOPAUSE: A MYTH EXPLODED. 093796 13-11
- NC-123 IN THE TREATMENT OF DISTURBANCES OF SEXUAL POTENCY. 105922 13-14
- MONOAMINES AND OVARIAN HORMONE LINKED SEXUAL AND EMOTIONAL CHANGES: A REVIEW. 110462 13-17

# Subject Index

- SEXUAL BEHAVIOUR AND TESTOSTERONE IN THE FEMALE RAT.** 123276 13-04
- SHAKES**
- SCHIZOPHRENIA - KEEPING THE SHAKES DOWN.** 102256 13-08
- SHAY**
- EFFECT OF AMINOGUANIDINE, CHLORPROMAZINE AND NSD-1055 ON GASTRIC SECRETION AND ULCERATION IN THE SHAY RAT.** 089442 13-03
- SHEEP**
- CHLORPROMAZINE METABOLISM IN SHEEP. II. IN VITRO METABOLISM AND PREPARATION OF 3H-7-HYDROXYCHLORPROMAZINE.** 121258 13-03
- SHIFTS**
- USE OF EXPERIMENTAL METHODS TO DETERMINE SHIFTS IN THE STATE OF SCHIZOPHRENIC PATIENTS DURING TREATMENT.** 118010 13-08
- SHOCK**
- EFFECTS OF METHAMPHETAMINE AND SHOCK DURATION DURING INESCAPABLE SHOCK EXPOSURE ON SUBSEQUENT ACTIVE AND PASSIVE AVOIDANCE.** 102549 13-04
- A COMPARISON OF STATE DEPENDENT LEARNING INDUCED BY ELECTROCONVULSIVE SHOCK AND PENTOBARBITAL.** 105362 13-04
- THE ATTENUATING EFFECT OF STRYCHNINE AND PHYSOSTIGMINE ON DURAL ELECTROCONVULSIVE SHOCK INDUCED RETROGRADE AMNESIA. (PH.D. DISSERTATION).** 109358 13-04
- RUBIDIUM INDUCED INCREASE IN SHOCK ELICITED AGGRESSION IN RATS.** 111144 13-04
- A CONTROLLED COMPARISON OF DRUG EFFECTS ON ESCAPE FROM CONDITIONED AVERSIVE STIMULATION (ANXIETY) AND FROM CONTINUOUS SHOCK.** 112313 13-04
- ADRENERGIC MECHANISMS IN HYPOGLYCEMIC SHOCK IN RABBITS. II. DISORDERS OF ADRENERGIC RESPONSE COMPENSATING HYPOGLYCEMIA IN RABBITS TREATED WITH SMALL DOSES OF RESERPINE.** 119648 13-03
- SHORT-TERM**
- THE ELECTROENCEPHALOGRAPHIC RECORDING OF SHORT-TERM AND LONG-TERM LITHIUM EFFECT.** 104441 13-13
- THE EFFECTS OF SEVERAL CHEMICAL AGENTS ON SHORT-TERM MEMORY.** 122758 13-02
- PARTICIPATION OF LIVER FUNCTION IN THE ACUTE TOLERANCE TO PENTOBARBITAL INDUCED AFTER SHORT-TERM INFUSION.** 125326 13-03
- SHUTTLE**
- EFFECTS OF DRUG STATE CHANGES UPON TWO-WAY SHUTTLE AVOIDANCE RESPONSES IN RATS, TREATED WITH CHLORDIAZEPOXIDE OR PLACEBO.** 117747 13-04
- SHUTTLE-BOX**
- TWO-WAY (SHUTTLE-BOX) AVOIDANCE IN RATS AFTER PARAOXON TREATMENT.** 110493 13-04
- PARTIAL ANTAGONISM BY EXOGENOUS CALCIUM OF THE DEPRESSANT EFFECT OF RESERPINE IN RAT SHUTTLE-BOX BEHAVIOR.** 117580 13-03
- SIDA-RETUSA**
- CENTRAL NERVOUS SYSTEM EFFECTS OF SIDA-RETUSA ROOT.** 098306 13-04
- SIDE**
- ON THE ANALYSIS OF SIDE (NEUROLEPTIC) MANIFESTATIONS IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS WITH MAJEPTIL.** 102657 13-08
- SIDE-EFFECT**
- LONG-TERM EVOLUTION OF THE SIDE-EFFECT LENS OPACITIES INDUCED BY CHLORPROMAZINE PROLONGED THERAPY.** 089189 13-15
- A CUTANEOUS SIDE-EFFECT OF LITHIUM: REPORT OF TWO CASES.** 107444 13-15
- SIDE-EFFECTS**
- SIDE-EFFECTS OF L-DOPA TREATMENT.** 082810 13-15
- METHAQUALONE: EFFICACY AS A HYPNOTIC AND SIDE-EFFECTS.** 082822 13-15
- ANABOLIC ACTION AND SIDE-EFFECTS OF OXANDROLONE IN 34 MENTAL PATIENTS.** 08629 13-15
- METHAQUALONE: EFFICACY AS A HYPNOTIC AND SIDE-EFFECTS.** 089327 13-15
- LITHIUMS SITE OF ACTION: CLUES FROM SIDE-EFFECTS.** 089531 13-15
- NEUTRALIZATION OF EXTRAPYRAMIDAL SIDE-EFFECTS WITH METHIXENE.** 095156 13-08

# Psychopharmacology Abstracts

- SIDE-EFFECTS OF A SUSTAINED RELEASE LITHIUM PREPARATION.** 101409 13-15
- A COMPARISON OF SIDE-EFFECTS BETWEEN LITHIUM ACETATE AND LITHIUM SULFATE.** 103794 13-15
- ONCE MORE - ON THE EXTRAORDINARY SIDE-EFFECTS OF DRUGS.** 104364 13-16
- RELATIONSHIP BETWEEN THE THERAPEUTIC EFFECT AND SIDE-EFFECTS IN THE TREATMENT WITH ANTIDEPRESSIVE DRUGS.** 105925 13-09
- THERAPEUTIC GUIDELINES AND SIDE-EFFECTS ENCOUNTERED DURING L-DOPA THERAPY IN 100 CASES OF PARKINSONISM.** 106483 13-15
- PSYCHIATRIC SIDE-EFFECTS OF LEVODOPA IN MAN.** 108007 13-15
- SIDE-EFFECTS OF L-DOPA.** 123702 13-15
- SIDMAN**
- THE EFFECTS OF MAGNESIUM PEMOLINE ON SIDMAN AVOIDANCE BEHAVIOR.** 078452 13-04
- EFFECTS OF L-DELTA-TETRAHYDROCANNABINOL ON TEMPORALLY SPACED RESPONDING AND DISCRIMINATED SIDMAN AVOIDANCE BEHAVIOR IN RATS.** 098924 13-04
- SIDNOCARB**
- TREATMENT OF SCHIZOPHRENIC PATIENTS WITH SIDNOCARB.** 102654 13-07
- SIGNAL**
- PHENOTHIAZINE EFFECTS ON AUDITORY SIGNAL DEFLECTION IN PARANOID AND NONPARANOID SCHIZOPHRENICS.** 106918 13-08
- SIGNIFICANCE**
- STIMULUS SIGNIFICANCE AND CHLORPROMAZINE INDUCED IMPAIRMENT OF AVOIDANCE LEARNING IN MICE.** 082759 13-04
- STIMULUS SIGNIFICANCE AND CHLORPROMAZINE EFFECTS ON THE EXPRESSION OF AVOIDANCE LEARNING IN MICE.** 086900 13-04
- STUDIES ON THE FUNCTIONAL SIGNIFICANCE OF CARBONIC ANHYDRASE IN CENTRAL NERVOUS SYSTEM.** 092158 13-03
- THE SIGNIFICANCE OF WORK THERAPY IN PARANOID SCHIZOPHRENIA.** 111979 13-08
- EVALUATION OF THE THERAPEUTIC SIGNIFICANCE OF THE PREPARATION IB-503 ON THE BASIS OF PERSONAL CLINICAL EXPERIENCE OVER A PERIOD OF FOUR YEARS.** 122947 13-09
- SIGNIFICANT**
- MEDICATION, ANXIETY REDUCTION AND PATIENT REPORT OF SIGNIFICANT LIFE SITUATION EVENTS.** 092456 13-10
- SIGNS**
- RED NUCLEUS FAST ACTIVITY AND SIGNS OF PARADOXICAL SLEEP APPEARING DURING THE EXTINCTION OF EXPERIMENTAL SEIZURES.** 098151 13-03
- SIMPLE**
- A SIMPLE PROCEDURE FOR CALCULATING THE SYNTHESIS RATE OF NOREPINEPHRINE, DOPAMINE AND SEROTONIN IN RAT BRAIN.** 082879 13-06
- A SIMPLE METHOD FOR MEASURING THE GENERAL ACTIVITY OF RATS IN BRAIN STIMULATION AND OTHER STUDIES.** 087289 13-06
- A SIMPLE QUANTITATIVE METHOD FOR THE EVALUATION OF PHYSICAL DEPENDENCE LIABILITY OF MORPHINE IN MICE.** 102885 13-04
- A SIMPLE RAPID METHOD FOR PREPARING PARALLEL MICROPIPETTE ELECTRODES.** 112202 13-16
- A SIMPLE AND SPECIFIC SCREEN FOR BENZODIAZEPINE LIKE DRUGS.** 114433 13-06
- A SIMPLE AND RELIABLE CONFLICT PROCEDURE FOR TESTING ANTIANXIETY AGENTS.** 124108 13-04
- SIMPLIFIED**
- A RAPID, SIMPLIFIED PROCEDURE FOR SIMULTANEOUS ASSAY OF NOREPINEPHRINE, DOPAMINE, AND 5-HYDROXYTRYPTAMINE FROM DISCRETE BRAIN AREAS.** 117510 13-06
- SINEQUAN**
- STUDIES ON THE ANTIDEPRESSANT ACTION OF DOXEPIN (SINEQUAN).** 087023 13-09
- A STUDY WITH SINEQUAN (DOXEPIN).** 095157 13-09
- LONG-TERM ADMINISTRATION OF DOXEPIN (SINEQUAN): CLINICAL AND LABORATORY SURVEY OF 40 PATIENTS.** 102593 13-09

## SINGLE

- THE SINGLE SOCIOPATH: PHYSIOLOGIC AND SOCIOLOGIC CHARACTERISTICS. 085192 13-11
- EFFECT OF TRICYCLIC ANTIDEPRESSANTS ON MONOAMINE RESPONSES OF SINGLE CORTICAL NEURONES. 087359 13-03
- EFFECTS OF SINGLE 1/2 L050 DOSES OF GB UPON DELAYED RESPONSE AND CONDITIONED AVOIDANCE RESPONSE TESTS. 094956 13-03
- THE SAFETY OF A SINGLE DAILY DOSE SCHEDULE FOR IMIPRAMINE. 099818 13-11
- DIURNAL VARIATION OF HEPATIC AMPHETAMINE CONCENTRATIONS IN MICE FED FREELY AND FED SINGLE DAILY MEALS. 106425 13-03
- CONTINUED AVERSION TO SACCHARIN BY SINGLE ADMINISTRATIONS OF MESCALINE AND D-AMPHETAMINE. 107629 13-04
- EFFECTS OF MICROIONTOPHORETIC APPLICATION OF IMIPRAMINE ON SINGLE NEURONES IN THE BRAIN STEM. 107962 13-03
- EVOLED POTENTIAL AND SINGLE UNIT STUDIES OF NEURAL MECHANISMS UNDERLYING THE EFFECTS OF REPETITIVE STIMULATION IN THE AUDITORY PATHWAY. 108671 13-03
- EFFECT OF MESCALINE ON SINGLE CORTICAL NEURONES. 108796 13-03
- EFFECTS OF AMPHETAMINE ON SINGLE CELL ACTIVITY IN A CATECHOLAMINE NUCLEUS, THE LOCUS COERULEUS. 111661 13-03
- SINGLE SUBJECT DESIGNS FOR ASSESSMENT OF PSYCHOTROPIC DRUG EFFECTS IN CHILDREN. 112085 13-14

## SINGLE-DOSE

- QUANTITATIVE EEG ANALYSIS OF SINGLE-DOSE EFFECT RELATIONSHIPS IN NORMAL VOLUNTEERS OF PACINOX (CAPURIDE), A NEW ANTIANXIETY DRUG. 087487 13-10

## SINGLE-DOSES

- HUNGER AND APPETITE AFTER SINGLE-DOSES OF MARIHUANA, ALCOHOL, AND DEXTROAMPHETAMINE. 069320 13-13

## SITUATION

- THE EFFECT OF ANTICHOLINERGICS ON THE BEHAVIOUR OF THE RAT IN A SOLITARY AND IN A SOCIAL SITUATION. 088730 13-04
- MEDICATION, ANXIETY REDUCTION AND PATIENT REPORT OF SIGNIFICANT LIFE SITUATION EVENTS. 092456 13-10
- THE EFFECTS OF ATROPINE ON HABITUATION IN A LIGHT REINFORCEMENT SITUATION. 104576 13-04

## SITUATIONS

- INFLUENCE OF (-)DELTA(9) TRANS-TETRAHYDROCANNABINOL AND MESCALINE ON THE BEHAVIOR OF RATS SUBMITTED TO FOOD COMPETITION SITUATIONS. 104578 13-04

## SIZE

- PARTICLE SIZE INFLUENCES IN PARENTERAL THERAPY: PHENOBARBITAL STUDY. 088290 13-03

## SKELETAL

- PHARMACOLOGICAL INTERACTION OF LORAZEPAM WITH THIOPENTONE SODIUM AND SKELETAL NEUROMUSCULAR BLOCKING DRUGS. 120410 13-03

## SKF-525A

- EFFECT OF DIETHYLAMINOETHYL DIPHENYLPROPYLACETATE HYDROCHLORIDE (SKF-525A) ON THE NOREPINEPHRINE DEPLETING ACTIONS OF D-AMPHETAMINE. 108286 13-03
- THE DELAY OF THE BEHAVIORAL EFFECTS OF DELTA9-TETRAHYDROCANNABINOL IN RATS BY 2-DIETHYLAMINOETHYL 2,2-DIPHENYLVALERATE HCL (SKF-525A). 109030 13-03

## SKILLS

- ALCOHOL, THIORIDAZINE AND CHLORPROMAZINE EFFECTS ON SKILLS RELATED TO DRIVING BEHAVIOUR. 101615 13-14

## SKIN

- THE EFFECTS OF PHENOTHIAZINE MEDICATION ON SKIN CONDUCTANCE AND HEART RATE IN SCHIZOPHRENIC PATIENTS. 085015 13-08
- EMOTION AND SKIN: A DOUBLE-BLIND EVALUATION OF PSYCHOTROPIC AGENTS. 103630 13-13
- ATTEMPTED THERAPY OF DEPRESSIVE PSYCHOSIS BY MEANS OF EXPERIMENTALLY INDUCED SKIN ALLERGIES. 126102 13-09

## SLABS

- EFFECTS OF SOME SYMPATHOMIMETIC DRUGS AND THEIR ANTAGONIST ON AFTERDISCHARGES ELICITED IN CHRONICALLY ISOLATED SLABS OF CEREBRAL CORTEX. 108793 13-03

## SLEEP

- CHLORPROTHIXENE ENFORCED SLEEP FOR NEWLY ADMITTED PATIENTS WITH ACUTE MENTAL DECOMPENSATION. 078951 13-14
- ARE OVER-THE-COUNTER SLEEP MEDICATIONS EFFECTIVE? ALL-NIGHT EEG STUDIES. 079234 13-14
- THE EFFECTS OF ALPHA-METHYLTYROSINE ON SLEEP AND BRAIN NOREPINEPHRINE IN CATS. 082787 13-04
- CHLORPROMAZINE AND SLEEP IN PSYCHIATRIC PATIENTS. 090929 13-14
- CHANGES IN REM SLEEP OF CHRONIC ANXIOUS DEPRESSED PATIENTS GIVEN ALPHA-METHYL-P-TYROSINE (UNPUBLISHED) PAPER. 093260 13-10
- EFFECTS OF ESTROGEN AND PROGESTERONE ON SLEEP PATTERNS OF FEMALE RATS. 095385 13-04
- EFFECTS OF 5-HYDROXYTRYPTOPHAN ON THE SLEEP OF NORMAL HUMAN SUBJECTS. 098149 13-14
- RED NUCLEUS FAST ACTIVITY AND SIGNS OF PARADOXICAL SLEEP APPEARING DURING THE EXTINCTION OF EXPERIMENTAL SEIZURES. 098151 13-03
- ACTION OF A BENZODIAZEPINE DERIVATIVE, RO-5-4200, ON THE EEG AND SLEEP CYCLE IN PATIENTS WITH INSOMNIA. 098662 13-07
- EFFECTS OF 5-HTP ON SLEEP IN MONGOL CHILDREN: PRELIMINARY RESULTS. 098880 13-14
- BRAIN CATECHOLAMINES AND HUMAN SLEEP. 099063 13-14
- EFFECTS OF AMYLOBARBITONE AND NITRAZEPAM ON THE ELECTRODERMOGRAM AND OTHER FEATURES OF SLEEP. 099118 13-14
- PYRAZOLE AND ETHANOL POTENTIATION OF TRYPTOPHOL INDUCED SLEEP IN MICE. 103647 13-04
- EFFECTS OF FENFLURAMINE ON SLEEP WAKEFULNESS IN CATS. 103947 13-04
- COMPARATIVE EFFECTS OF TEN ANORECTIC DRUGS ON SLEEP WAKEFULNESS PATTERNS IN CATS. 104174 13-04
- EFFECTS OF PLACEBO AND FLURAZEPAM ON SLEEP PATTERNS IN INSOMNIAC SUBJECTS. 104367 13-14
- THE INFLUENCE OF LOW LSD DOSE ADMINISTRATION DURING SLEEP IN RATS. 104429 13-04
- RESERPINE AND SLEEP. 104828 13-14
- L-TRYPTOPHAN AND SLEEP. 104831 13-14
- CHLORPROMAZINE AND HUMAN SLEEP. 105007 13-14
- AN ANALYSIS OF THE EFFECTS OF METHAQUALONE AND GLUTETHIMIDE ON SLEEP IN INSOMNIAC SUBJECTS. 105119 13-14
- SLEEP, PSYCHOLOGICAL AND CLINICAL CHANGES DURING ALCOHOL WITHDRAWAL IN MILD-TREATED ALCOHOLICS. 106132 13-11
- SLEEP, DRUGS, AND DREAMS. 106367 13-17
- BRAIN NOREPINEPHRINE AND SEROTONIN LEVELS FOLLOWING REM SLEEP DEPRIVATION IN THE RAT. 106492 13-03
- THE EFFECTS OF SELECTED PHENOTHIAZINES ON THE SLEEP OF CATS. 106525 13-04
- DIGITAL COMPUTER ANALYZED RESTING AND SLEEP EEG INVESTIGATIONS AND CLINICAL CHANGES DURING MOLINDONE TREATMENT. 107244 13-08
- DRUGS AND SLEEP. 107660 13-14
- EFFECT OF DIPHENYLHYDANTOIN ON HEXOBARBITAL SLEEP TIME IN MICE AND RATS. 107944 13-03
- THE PHARMACOLOGY OF RAPID EYE MOVEMENT SLEEP. 108524 13-14
- EFFECT OF THIOXIXENE ON DIGITAL COMPUTER SLEEP PRINTS OF SCHIZOPHRENIC PATIENTS. 108569 13-14

## Subject Index

## Psychopharmacology Abstracts

- EFFECTS OF FLUPHENAZINE HYDROCHLORIDE ON DIGITAL COMPUTER SLEEP PRINTS OF SCHIZOPHRENIC PATIENTS. 108701 13-08
- REINVESTIGATION OF THE EFFECTS OF GAMMA-HYDROXYBUTYRATE ON THE SLEEP CYCLE OF THE UNRESTRAINED INTACT CAT. 109621 13-03
- DEBRISOQUINE, GUANETHIDINE, PROPRANOLOL AND HUMAN SLEEP. 110189 13-14
- ALPHA-METHYL-P-TYROSINE AND SLEEP IN THE RAT. 110192 13-04
- SLEEP APNEA AND SLEEP REGULATING MECHANISM: A CASE EFFECTIVELY TREATED WITH MONOCHLORIMIPRAMINE. 111589 13-13
- EFFECT OF PHENAMINE INDUCED INSOMNIA AND OF SUBSEQUENT SLEEP ON PROTEIN CONTENT IN THE NEURONS AND GLIAL CELLS OF THE SUPRAOPTIC AND RED NUCLEI OF THE BRAIN. 111831 13-03
- EFFECTS OF METHYLDOPA ON SLEEP PATTERNS IN MAN. 112201 13-14
- EFFECTS OF 6-HYDROXYDOPAMINE ON SLEEP IN THE RAT. 114514 13-04
- COMPARISON OF THE EFFECTS OF CYCLAZOCINE AND IMIPRAMINE ON THE CIRCADIAN SLEEP WAKING CYCLE OF THE CAT. 121220 13-05
- SLEEPING**
- NOREPINEPHRINE CONTAINING NEURONS; SPONTANEOUS ACTIVITY DURING WAKING AND SLEEPING IN FREELY BEHAVING CATS (UNPUBLISHED PAPER). 092976 13-04
- HEXOBARBITAL SLEEPING TIME AND AMPHETAMINE MOTILITY AFTER SUBCHRONIC TETRAHYDROCANNABINOL TREATMENT. 123284 13-03
- SLICES**
- GABA UPTAKE IN RAT CENTRAL NERVOUS SYSTEM: COMPARISON OF UPTAKE IN SLICES AND HOMOGENATES AND THE EFFECTS OF SOME INHIBITORS. 104007 13-03
- THE UPTAKE OF MORPHINE BY THE CHOROID PLEXUS AND CEREBRAL CORTICAL SLICES OF ANIMALS CHRONICALLY TREATED WITH MORPHINE. 122543 13-03
- SLOW**
- SLOW SYNAPTIC EXCITATION: EVIDENCE FOR SYNAPTIC INACTIVATION OF POTASSIUM CONDUCTANCE (UNPUBLISHED PAPER). 094923 13-03
- SM-307**
- PHARMACOLOGICAL STUDIES OF 5-METHYL-8-ETHYL-SULFONYL-10-(2-DIMETHYLAMINOETHYL) 5H DIBENZODIAZEPINEONE (SM-307), AN ANTIDEPRESSIVE SUBSTANCE. 098303 13-03
- SMOKE**
- EFFECT OF HASHISH SMOKE SUBLIMATE ON HYPOTHALAMIC NORADRENALINE STUDIED BY THE FLUORESCENCE METHOD. 106486 13-03
- SMOKING**
- SOME CARDIOVASCULAR EFFECTS OF MARIJUANA SMOKING IN NORMAL VOLUNTEERS. 100418 13-13
- INTERACTION OF PERSONALITY AND TREATMENT CONDITIONS ASSOCIATED WITH SUCCESS IN A SMOKING CONTROL PROGRAM. 108268 13-17
- SNAIL**
- ACTION OF IMIPRAMINE ON 5-HYDROXYTRYPTAMINERGIC TRANSMISSION AND ON 5-HYDROXYTRYPTAMINE UPTAKE IN THE SNAIL (HELIX-POMATIA) BRAIN. 120411 13-03
- SOCIAL**
- CHANGES IN PRIMATE SOCIAL BEHAVIOR AFTER TREATMENT WITH ALPHA-METHYL-P-TYROSINE. 085419 13-04
- THE EFFECT OF ANTICHOLINERGICS ON THE BEHAVIOUR OF THE RAT IN A SOLITARY AND IN A SOCIAL SITUATION. 088730 13-04
- LYSERGIC ACID DIETHYLAMIDE TARTRATE (LSD-25) DOSAGE LEVELS, GROUP DIFFERENCES, AND SOCIAL INTERACTION. 098888 13-12
- SOCIAL BEHAVIOR OF MONKEYS SELECTIVELY DEPLETED OF MONOAMINES. 101934 13-04
- EFFECTS OF RESERPINE ON THE SOCIAL BEHAVIOR OF RHESUS MONKEYS. 108699 13-04
- SOCIOLOGIC**
- THE SINGLE SOCIOPATH: PHYSIOLOGIC AND SOCIOLOGIC CHARACTERISTICS. 085192 13-11
- SOCIOPATH**
- THE SINGLE SOCIOPATH: PHYSIOLOGIC AND SOCIOLOGIC CHARACTERISTICS. 085192 13-11
- SODIUM**
- SODIUM AMYLOBARBITONE, THE PARTIAL REINFORCEMENT EXTINCTION EFFECT, AND THE FRUSTRATION EFFECT IN THE DOUBLE RUNWAY. 082859 13-04
- FACILITATION AND IMPAIRMENT OF AVOIDANCE RESPONDING BY PHENOBARBITAL SODIUM, CHLORDIAZEPOXIDE AND DIAZEPAM - THE ROLE OF PERFORMANCE BASE LINES. 082881 13-04
- THE EFFECT OF 5-HYDROXYTRYPTOPHAN AND RESERPINE ADMINISTRATION ON THE LEVEL OF SODIUM, POTASSIUM, CALCIUM, MAGNESIUM AND CHLORIDE IN FIVE DISCRETE AREAS OF THE RABBIT BRAIN. 088665 13-03
- DYSNOMIA AND IMPAIRMENT OF VERBAL MEMORY FOLLOWING INTRACAROTID INJECTION OF SODIUM AMYTAL. 092159 13-14
- POST-MORTEM CHANGES IN TISSUE LEVELS OF SODIUM SECOBARBITAL. 098634 13-03
- EFFECT OF SODIUM NITRITE ON MONOAMINE OXIDASE ACTIVITY IN RAT LIVER AND BRAIN. 100100 13-03
- ANXIETY AND THE EFFECTS OF SODIUM LACTATE ASSESSED CLINICALLY AND PHYSIOLOGICALLY. 100780 13-10
- SODIUM AND POTASSIUM ACTIVATED ATPASE OF BEEF BRAIN - EFFECTS OF SOME TRANQUILIZERS. 101705 13-03
- SODIUM RETENTION AND NORADRENALINE SENSITIVITY OF THE PUPILS AND OF THE CARDIOVASCULAR SYSTEM. 106149 13-03
- EFFECT OF INTRAVENTRICULARLY APPLIED SODIUM OROTATE ON A CONDITIONED AVOIDANCE RESPONSE OF THE RAT. 119690 13-04
- PHARMACOLOGICAL INTERACTION OF LORAZEPAM WITH THIOPENTONE SODIUM AND SKELETAL NEUROMUSCULAR BLOCKING DRUGS. 120410 13-03
- LITHIUM EFFECTS ON THE EEG AND SOMATOSENSORY EVOKED RESPONSE IN RELATION TO SODIUM METABOLISM. 125569 13-13
- SOLITARY**
- THE EFFECT OF ANTICHOLINERGICS ON THE BEHAVIOUR OF THE RAT IN A SOLITARY AND IN A SOCIAL SITUATION. 088730 13-04
- THE INFLUENCE OF LYSERGIC ACID DIETHYLAMIDE ON THE ACTIVITY OF SOLITARY NEURONS OF SOME CEREBRAL REGIONS. 107722 13-03
- SOLUTION**
- D-AMPHETAMINE AND PALATABILITY OF A SACCHARIN SOLUTION. 088071 13-04
- SOLUTIONS**
- HUMAN PROBLEMS AND CHEMICAL SOLUTIONS. 106159 13-17
- SOLVENT**
- THE INFLUENCE OF SOLVENT AGENTS ON THE EFFECTS OF CANNABIS. 123291 13-03
- SOLVENTS**
- THE EFFECT OF SOLVENTS ON THE POTENCY OF CHLORDIAZEPOXIDE, DIAZEPAM, MEDAZEPAM AND NITRAZEPAM. 077908 13-02
- SOMATIC**
- THE EFFICACY OF MESORIDAZINE (LIDANIL) IN PSYCHONEUROSES AND SOMATIC ILLNESSES. 089302 13-11
- SOMATOSENSORY**
- CHANGES IN SOMATOSENSORY EVOKED POTENTIALS DURING FLUPHENAZINE TREATMENT. 087001 13-13
- SOMATOSENSORY EVOKED RESPONSES IN THE MESENCEPHALIC CENTRAL GRAY MATTER OF THE RAT. 097446 13-03
- SOMATOSENSORY EVOKED POTENTIAL CHANGES DURING THIOTHIXENE TREATMENT IN SCHIZOPHRENIC PATIENTS. 105008 13-08
- SOMATOSENSORY EVOKED POTENTIAL CHANGES DURING THIOTHIXENE TREATMENT IN SCHIZOPHRENIC PATIENTS. 125568 13-08
- LITHIUM EFFECTS ON THE EEG AND SOMATOSENSORY EVOKED RESPONSE IN RELATION TO SODIUM METABOLISM. 125569 13-13
- SOMNAMBULISM**
- TREATMENT OF PAVOR-NOCTURNUS AND SOMNAMBULISM IN CHILDREN. 106954 13-11

- SOTALOL**  
REVERSAL BY SOTALOL OF THE RESPIRATORY DEPRESSION INDUCED IN MICE BY ETHANOL. 105406 13-03  
PHYSICAL PERFORMANCE OF MICE TREATED WITH PROPRANOLOL, SOTALOL AND INPEA. 120818 13-04
- SOURCE**  
THE PREPUTIAL GLANDS AS A SOURCE OF AGGRESSION PROMOTING ODORS IN MICE. 088571 13-04  
A SOURCE OF ERROR IN THE ESTIMATION OF VANILLYLMADELIC ACID IN RAT URINE USING PERIODATE OXIDATION (UNPUBLISHED PAPER). 092893 13-06
- SPACE**  
DRUG-INDUCED DISTORTION OF VISUAL SPACE. 108976 13-14
- SPACED**  
EFFECTS OF L-DELTA-TETRAHYDROCANNABINOL ON TEMPORALLY SPACED RESPONDING AND DISCRIMINATED SIDMAN AVOIDANCE BEHAVIOR IN RATS. 098924 13-04  
EFFECTS OF DELTA9-TETRAHYDROCANNABINOL ON SPACED RESPONDING IN GREAT APES. 120966 13-04
- SPAN**  
MARIHUANA AND THE TEMPORAL SPAN OF AWARENESS. 095925 13-14
- SPANSULES**  
COMPARISON OF THIORIDAZINE TABLETS TO CHLORPROMAZINE SPANSULES IN THE MAINTENANCE CARE OF CHRONIC SCHIZOPHRENICS. 097554 13-07
- SPATIAL**  
PROACTIVE AND RETROACTIVE EFFECTS OF DIETHYL ETHER ON SPATIAL DISCRIMINATION LEARNING IN INBRED MOUSE STRAINS DBA/2J AND C57BL/6J. 079532 13-14
- SPECIALITY**  
MCGILL RECOGNIZES SPECIALITY OF PSYCHOPHARMACOLOGY BY ESTABLISHING NEW DEPARTMENT. 078127 13-17
- SPECIES**  
P-CHLOROAMPHETAMINE: SPECIES DIFFERENCES IN THE RATE OF DISAPPEARANCE AND THE LOWERING OF CEREBRAL SEROTONIN. 077869 13-03  
ACUTE ORAL TOXICITY OF CANNABINOIDS IN VARIOUS SPECIES (UNPUBLISHED PAPER). 093082 13-05  
CACTACEAE ALKALOIDS: X. ALKALOIDS OF TRICHOCEREUS SPECIES AND SOME OTHER CACTI. 100170 13-01  
SPECIES AND AGE DIFFERENCES IN THE ACTIVITY OF ISOCARBOXAZID HYDROLYSING ENZYME. 104324 13-03  
THE INFLUENCE OF METHYL SUBSTITUTION ON THE N-DEMETHYLATION AND N-OXIDATION OF NORMETHADONE IN ANIMAL SPECIES. 106423 13-03  
METABOLISM OF THE PHENOTHIAZINE DRUG PERAZINE BY LIVER AND LUNG MICROSOMES FROM VARIOUS SPECIES. 108718 13-03
- SPECIFIC**  
DOM (STP), A NEW HALLUCINOGENIC DRUG: SPECIFIC PERCEPTUAL CHANGES. 078958 13-12  
INSULIN RECEPTORS IN THE LIVER: SPECIFIC BINDING OF 125I INSULIN TO THE PLASMA MEMBRANE AND ITS RELATION TO INSULIN BIOACTIVITY (UNPUBLISHED PAPER). 092377 13-03  
DIFFERENTIATION OF TWO GENETICALLY SPECIFIC TYPES OF DEPRESSION BY THE RESPONSE TO ANTIDEPRESSANT DRUGS. 101434 13-10  
MONOAMINE OXIDASE IN SYMPATHETIC NERVES: A TRANSMITTER SPECIFIC ENZYME TYPE. 108792 13-03  
A SIMPLE AND SPECIFIC SCREEN FOR BENZODIAZEPINE LIKE DRUGS. 114433 13-06  
THE APOMORPHINE ANTAGONISM TEST IN DOGS: EXPERIMENTAL EVIDENCE AND CRITICAL CONSIDERATIONS ON SPECIFIC METHODOLOGICAL CRITERIA. 121221 13-06
- SPECIFICITY**  
AGREEMENT ON SPECIFICITY OF PSYCHOTROPIC DRUGS. 078130 13-16  
SPECIFICITY OF ACTION OF 6-HYDROXYDOPAMINE IN PERIPHERAL CAT TISSUES: DEPLETION OF NORADRENALINE WITHOUT DEPLETION OF 5-HYDROXYTRYPTAMINE. 088486 13-03
- STIMULUS AND RESPONSE SPECIFICITY IN THE HABITUATION OF ANTIPREDATOR BEHAVIOUR IN THE RING DOVE (STREPTOPELIA-RISORIA).** 100047 13-09  
**ADVERSE REACTIONS AND THE SPECIFICITY OF ANTIDEPRESSANT DRUG EFFECTS.** 105277 13-15
- SPECTRA**  
EEG CHANGES AFTER FLUPHENAZINE ENANTHATE AND DECANOATE BASED ON ANALOG POWER SPECTRA AND DIGITAL COMPUTER PERIOD ANALYSIS. 105009 13-13
- SPECTROMETRY**  
GAS CHROMATOGRAPHY MASS SPECTROMETRY OF NORTRIPTYLINE IN BODY FLUIDS OF MAN. 077931 13-16  
IDENTIFICATION OF BUFOTENIN IN TOAD BRAIN BY CHROMATOGRAPHY AND MASS SPECTROMETRY OF ITS DAMS DERIVATIVE. 098685 13-03  
IDENTIFICATION OF (-)-DELTA-9-6A, 10A, TRANS-TETRAHYDROCANNABINOL AND TWO OF ITS METABOLITES IN RATS BY USE OF COMBINATION GAS CHROMATOGRAPHY MASS SPECTROMETRY AND MASS FRAGMENTOGRAPHY. 102733 13-03
- SPHINCTER**  
CHANGES IN THE BLADDER AND SPHINCTER TONUS OF THE BLADDER BY MEANS OF THYMOLEPTICS: CYSTOMANOMETRIC STUDIES IN MAN. 122292 13-15
- SPIDERS**  
DRUGS ALTER WEB-BUILDING OF SPIDERS: A REVIEW AND EVALUATION. 079096 13-04  
BEHAVIOR AND HOW IT IS AFFECTED BY DRUGS IS BEING INVESTIGATED BY THE NORTH-CAROLINA DEPARTMENT OF MENTAL HEALTH BY USING SPIDERS AS LABORATORY ANIMALS. 086126 13-04
- SPIKE**  
ELECTROENCEPHALOGRAPHIC STUDIES ON CODEINE DEPENDENCE IN RAT WITH SPECIAL REFERENCE TO THE SPIKE FORMATION IN THE HIPPOCAMPUS DURING ABSTINENCE SYNDROME. 098304 13-03
- SPIKES**  
ATROPINE SPIKES. 125630 13-13
- SPINAL**  
EFFECT OF MORPHINE ON THE PRESYNAPTIC AND POSTSYNAPTIC INHIBITIONS IN THE SPINAL CORD. 082788 13-03  
ACTIONS OF MORPHINE AND NARCOTIC ANTAGONIST ANALGESICS ON THE SPINAL CORD OF ACUTE AND CHRONIC SPINAL RATS. 098305 13-03  
ACTION OF DIAZEPAM ON THE SPINAL CORD. 106148 13-03  
EFFECTS OF SOME NARCOTIC ANALGESICS UPON THE MONOSYNAPTIC REFLEX INHIBITION FROM MUSCULAR AND CUTANEOUS AFFERENTS IN SPINAL CORD OF THE CAT. 125327 13-03  
FURTHER OBSERVATION ON THE ENHANCEMENT BY MORPHINE OF THE CENTRAL DESCENDING INHIBITORY INFLUENCE ON SPINAL SENSORY TRANSMISSION. 125358 13-03
- SPLEEN**  
EFFECT OF LITHIUM ON THE RELEASE OF 14C-NOREPINEPHRINE BY NERVE STIMULATION FROM THE PERFUSED CAT SPLEEN. 077989 13-03  
THE INFLUENCE OF PARGYLINE ON THE EFFECTS OF IN VITRO DOPAMINE INFUSIONS IN THE CAT SPLEEN. 107193 13-03  
EFFECT OF THE MONOAMINE OXIDASE INHIBITOR PARGYLINE ON THE UPTAKE OF LABELLED NORADRENALINE BY THE CATS SPLEEN. 120413 13-03
- SPONTANEOUS**  
IMPORTANCE OF NORADRENALINE FOUND IN A FUNCTIONAL POOL IN MAINTAINING SPONTANEOUS LOCOMOTOR ACTIVITY IN RATS. 077424 13-04  
THE EFFECT OF PARA-CHLOROPHENYLALANINE ON SPONTANEOUS LOCOMOTOR ACTIVITY IN THE RAT. 082758 13-14  
SPONTANEOUS ACTIVITY AND WATER INTAKE IN THE RAT UNDER THE EFFECTS OF SCOPOLAMINE HBR AND MAGNESIUM PEMOLINE. 086186 13-04  
NOREPINEPHRINE CONTAINING NEURONS: SPONTANEOUS ACTIVITY DURING WAKING AND SLEEPING IN FREELY BEHAVING CATS (UNPUBLISHED PAPER). 092976 13-04  
INCREASES IN SPONTANEOUS ACTIVITY FOLLOWING INTERMITTENT IMIPRAMINE ADMINISTRATION. 102196 13-04

# Subject Index

- THE DIFFERENTIAL EFFECTS OF METHAMPHETAMINE UPON VISUAL EXPLORATORY BEHAVIOR AND SPONTANEOUS MOTOR ACTIVITY IN RHESUS MONKEYS (MACACA-MULATTA). 103040 13-04
- EFFECTS OF BENZODIAZEPINES ON SPONTANEOUS ELECTRICAL ACTIVITY OF SUBCORTICAL AREAS IN BRAIN OF CAT. 103649 13-03
- THE INFLUENCE OF SOME SELECTED PSYCHOACTIVE DRUGS ON THE SPONTANEOUS CONTRACTILE ACTIVITY OF THE ISOLATED MURINE PORTAL VEIN. 104964 13-03
- THE INFLUENCE OF ANTICHOLINERGIC HALLUCINOGENS ON SPONTANEOUS AND CONDITIONED BEHAVIOUR IN RATS. 105994 13-04
- DISSOCIATION BETWEEN EEG AND SPONTANEOUS BEHAVIOUR OF RATS AFTER ATROPINE. 106094 13-03
- THE EFFECT OF AMANTADINE ON SPONTANEOUS LOCOMOTOR ACTIVITY IN THE RAT. 120820 13-03
- STUDIES OF THE SPONTANEOUS MOVEMENT OF ANIMALS BY THE HOLE CROSS TEST; EFFECT OF 2-DIMETHYLAMINOETHANOL AND ITS ACYL ESTERS ON THE CENTRAL NERVOUS SYSTEM. 120930 13-03
- SPOT**
- SPOT TESTS FOR RAPID DIAGNOSIS OF POISONING. 089180 13-15
- SPOUSES**
- THE INFLUENCE OF PROPHYLACTIC LITHIUM TREATMENT ON THE MARITAL ADJUSTMENT OF MANIC-DEPRESSIVES AND THEIR SPOUSES. 100314 13-09
- SQUIRREL**
- EFFECTS OF TWO TETRAHYDROCANNABINOLS AND OF PENTOBARBITAL ON CORTICO-CORTICAL EVOKED RESPONSES IN THE SQUIRREL MONKEY. 082720 13-03
- FACTORS AFFECTING BEHAVIOR MAINTAINED BY RESPONSE CONTINGENT INTRAVENOUS INFUSIONS OF AMPHETAMINE IN SQUIRREL MONKEYS. 089060 13-04
- BEHAVIORAL TOLERANCE OF SQUIRREL MONKEYS TO HYPOXIA: A MODEL FOR EVALUATING DRUG THERAPY. 091102 13-06
- EFFECTS OF AMPHETAMINE AND CHLORPROMAZINE ON SECOND-ORDER ESCAPE BEHAVIOR IN SQUIRREL MONKEYS. 102189 13-04
- THE EFFECTS OF A MARIJUANA EXTRACT ON THE GENERAL MOTOR ACTIVITY OF THE SQUIRREL MONKEY. 105077 13-04
- STAFF**
- A STUDY OF HOSPITAL STAFF ATTITUDES CONCERNING THE COMPARATIVE MERITS OF ANTIBIOTICS. 069516 13-17
- PHENOTHIAZINE INTAKE AND STAFF ATTITUDES. 093270 13-17
- STAFF MAN SYNDROME AND TRAUMA. 105547 13-11
- STARTLE**
- THE EFFECTS OF CHRONIC ADMINISTRATION OF ETHANOL ON STARTLE THRESHOLDS IN RATS. 110205 13-04
- STARVATION**
- POTENTIATION OF AMPHETAMINE INDUCED AROUSAL BY STARVATION. 114515 13-04
- STATE**
- DOUBLE-BLIND STUDY ON THE CORRELATIONS OF URINARY ELIMINATION OF CATECHOLAMINES AND THEIR METABOLITES (SUPPOSED TO COME THROUGH ADRENOCHROME, NORADRENOCHROME AND DOPACHROME) WITH CLINICAL STATE OF 50 PATIENTS UNDER DIFFERENT PSYCHOPHARMACOLOGIC DRUG. 087003 13-13
- REVIEW OF THE EFFECTS IN MAN OF MARIJUANA AND TETRAHYDROCANNABINOLS ON SUBJECTIVE STATE AND PHYSIOLOGIC FUNCTIONING (UNPUBLISHED PAPER). 092101 13-13
- THE INFLUENCE OF BARBITURATE ANESTHESIA UPON THE ENERGY STATE AND UPON ACID BASE PARAMETERS OF THE BRAIN IN ARTERIAL HYPOTENSION AND IN ASPHYXIA. 095999 13-03
- ANXIETY STATE OR MASKED DEPRESSION? A STUDY BASED ON THE ACTION OF MONOAMINE OXIDASE INHIBITORS. 100791 13-10
- METHYLPHENIDATE AND THE HYPERKINETIC STATE. 103916 13-14
- EFFECTS OF DIAZEPAM ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS. 104138 13-04

# Psychopharmacology Abstracts

- EVIDENCE FOR STATE DEPENDENT LEARNING WITH MESCALINE IN A PASSIVE AVOIDANCE TASK. 105079 13-04
- A COMPARISON OF STATE DEPENDENT LEARNING INDUCED BY ELECTROCONVULSIVE SHOCK AND PENTOBARBITAL. 105362 13-04
- THE EFFECTS OF TWO TETRAHYDROCANNABINOLS, (DELTA9-THC AND DELTA8-THC) ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS. 106393 13-04
- EFFECTS OF DRUG STATE CHANGES UPON TWO-WAY SHUTTLE AVOIDANCE RESPONSES IN RATS, TREATED WITH CHLORDIAZEPOXIDE OR PLACEBO. 117747 13-04
- USE OF EXPERIMENTAL METHODS TO DETERMINE SHIFTS IN THE STATE OF SCHIZOPHRENIC PATIENTS DURING TREATMENT. 118010 13-08
- EFFECTS OF DRUG STATE CHANGES UPON BLACK WHITE DISCRIMINATION LEARNING IN RATS. 125253 13-04
- INFLUENCE OF AMPHETAMINE ON THE PATHOLOGICAL STATE OF THE RAT BRAIN. 125422 13-05
- STATISTICAL**
- STATISTICAL AMPLITUDE ANALYSIS OF THE INTEGRATED ELECTROCORTICOGRAM OF UNRESTRAINED RATS BEFORE AND AFTER PROCHLORPERAZINE. 082863 13-03
- THE EFFECT OF A THYMOTROPIC DRUG UPON INHIBITION OF DRIVE IN ENDOGENOUS DEPRESSION: A QUANTITATIVE STATISTICAL INVESTIGATION. 087291 13-09
- COURSE OF BODY TEMPERATURE IN NEUROLEPTIC INJECTION TREATMENTS: STATISTICAL EVALUATION OF RETROSPECTIVE DATA. 098272 13-15
- STATUS-EPILEPTICUS**
- CESSATION OF STATUS-EPILEPTICUS WITH UNITHIOL. 110144 13-13
- LONG-TERM SEIZURE AFTER STATUS-EPILEPTICUS WITH DIAZEPAM. 115899 13-13
- EFFECT OF DRUGS USED IN STATUS-EPILEPTICUS ON THE POTASSIUM FLUXES OF CEREBROSPINAL FLUID IN THE CONSCIOUS DOG. 120412 13-03
- TREATMENT OF STATUS-EPILEPTICUS WITH INTRAVENOUS CHLORDIAZEPOXIDE (LIBRIUM). 125574 13-14
- STELAZINE**
- PROLIXIN ENANTHATE AND THORAZINE STELAZINE REGIMENS IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS. AN EXPERIMENTAL EVALUATION. 096017 13-08
- CHANGES IN THE ACTIVITY OF OXIDATIVE ENZYMES IN THE BRAIN OF RATS UNDER THE EFFECT OF TRIFLUOPERAZINE (STELAZINE). 113522 13-03
- STEM**
- THE ACTION OF SEDATIVES ON BRAIN STEM OCULOMOTOR SYSTEMS IN MAN. 082861 13-13
- THE EFFECTS OF MORPHINE, PENTOBARBITAL AND CHLORPROMAZINE ON BIOELECTRICAL POTENTIALS EVOKED IN THE BRAIN STEM OF THE CAT BY ELECTRICAL STIMULATION OF THE GINGIVA AND TOOTH PULP. 094254 13-05
- EFFECTS OF MICRODIONTOPHORETIC APPLICATION OF IMIPRAMINE ON SINGLE NEURONES IN THE BRAIN STEM. 107962 13-03
- EFFECT OF TRIPHASINE AND CHLORPROMAZINE ON NORADRENALINE AND ATP CONCENTRATION IN THE GRANULATION AND SUPERNATANT FRACTIONS OF THE BRAIN STEM. 111293 13-03
- MECHANISM OF ACTION OF PSYCHOTOMIMETIC DRUGS IN THE BRAIN STEM. 125593 13-13
- STEP**
- DOPAMINE NOREPINEPHRINE: ANOTHER REGULATORY STEP OF NOREPINEPHRINE SYNTHESIS IN CENTRAL NORADRENERGIC NEURONS. 082825 13-03
- STEREISOISOMERS**
- COMPARATIVE PSYCHOTOMIMETIC EFFECTS OF STEREOISOMERS OF AMPHETAMINE. 102535 13-12
- STEREOTYPED**
- ENHANCEMENT OF AMPHETAMINE INDUCED STEREOTYPED BEHAVIOR BY BENZODIAZEPINES. 078936 13-04
- THE COMPARISON OF THE STEREOTYPED BEHAVIOR INDUCING EFFECTS OF D-AMPHETAMINE AND L-AMPHETAMINE IN DOGS. 099110 13-04

- THE EFFECT OF DRUGS ON STEREOTYPED AND NONSTEREOTYPED OPERANT BEHAVIORS IN RETARDATES. 104572 13-14
- INTRACEREBRAL LESIONS CAUSING STEREOTYPED BEHAVIOUR IN RATS. 117681 13-03
- STEREOTYPES**
- THE INFLUENCE OF NEUROLEPTIC AND THYMOLEPTIC DRUGS ON STEREOTYPES INDUCED BY AMPHETAMINE AND APOMORPHINE. 102186 13-04
- STEREOTYPY**
- THE RELATIONSHIP BETWEEN THE INHIBITION OF DOPAMINE UPTAKE AND THE ENHANCEMENT OF AMPHETAMINE STEREOTYPY. 100566 13-03
- ADRENERGIC EFFECT OF CHRONIC ADMINISTRATION OF NEUROLEPTICS AND ANTIDEPRESSANTS ON A MODEL OF APOMORPHINE INDUCED STEREOTYPY. 111135 13-04
- STERILITY**
- STERILITY FROM PHENACETIN. 094922 13-03
- STEROIDS**
- PROTECTION AGAINST LSD BY VARIOUS STEROIDS. 101542 13-03
- STIMULANT**
- AN EXAMINATION OF THE EFFECT OF CENTRAL NERVOUS SYSTEM STIMULANT AND ANTIDEPRESSANT DRUGS ON OPEN-FIELD PERFORMANCE IN RATS. 078937 13-04
- STIMULANT ACTION OF D-AMPHETAMINE IN RELATION TO TEST COMPARTMENT DIMENSIONS AND BEHAVIORAL MEASURE. 086901 13-04
- EFFECTS OF IMIPRAMINE, DESIPRAMINE AND MONOAMINE OXIDASE INHIBITORS ON THE METABOLISM AND PSYCHOMOTOR STIMULANT ACTIONS OF D-AMPHETAMINE IN MICE. 089027 13-04
- PRINCIPLES OF DRUG THERAPY IN CHILD PSYCHIATRY WITH SPECIAL REFERENCE TO STIMULANT DRUGS. 101214 13-17
- PSYCHOMOTOR STIMULANT SELF-ADMINISTRATION AS A FUNCTION OF DOSAGE PER INJECTION IN THE RHESUS MONKEY. 111146 13-04
- THE EFFECT OF STIMULANT DRUGS ON HUMAN FIGURE DRAWINGS IN CHILDREN WITH MINIMAL BRAIN DYSFUNCTION. 125254 13-14
- SEPARATION OF THE EFFECTS OF MAGNESIUM PEMOLINE ON AVOIDANCE LEARNING AND MEMORY FROM ITS CENTRAL NERVOUS SYSTEM STIMULANT PROPERTIES BY CHLORDIAZEPOXIDE. 125410 13-04
- STIMULANTS**
- STIMULANTS AND THE HYPERKINETIC YOUNGSTER. 079455 13-17
- PHARMACOLOGICAL BLOCKADE OF AMPHETAMINE EFFECTS IN SUBJECTS DEPENDENT ON CENTRAL STIMULANTS. 123292 13-13
- STIMULATED**
- NOREPINEPHRINE STIMULATED INCREASE OF CYCLIC AMP LEVELS IN DEVELOPING MOUSE BRAIN CELL CULTURES. 100103 13-03
- EFFECT OF RESERPINE ON RELEASE OF (3H)NORADRENALINE, (3H)DOPAMINE AND (3H)METARAMINOL FROM FIELD STIMULATED RAT IRIS. 118563 13-03
- STIMULATING**
- APPETITE STIMULATING AND WEIGHT GAIN PROPERTIES OF CYPROHEPTADINE (PERIACETIN) IN GERIATRIC SUBJECTS. 074314 13-11
- EVIDENCE FOR A NEW TYPE OF DOPAMINE RECEPTOR STIMULATING AGENT. 122547 13-03
- STIMULATION**
- SELF-STARVATION AND REWARDING BRAIN STIMULATION: EFFECTS OF CHLORPROMAZINE AND PENTOBARBITAL. 075046 13-04
- EFFECT OF LITHIUM ON THE RELEASE OF 14C-NOREPINEPHRINE BY NERVE STIMULATION FROM THE PERFUSED CAT SPLEEN. 077989 13-03
- A SIMPLE METHOD FOR MEASURING THE GENERAL ACTIVITY OF RATS IN BRAIN STIMULATION AND OTHER STUDIES. 087289 13-06
- STIMULATION OF (14C) SEROTONIN SYNTHESIS FROM (14C) TRYPTOPHAN BY MESCALINE IN RAT PINEAL ORGAN CULTURES. 088702 13-03
- SENSITIVITY TO HALOPERIDOL OF CAUDATE NEURONES EXCITED BY NIGRAL STIMULATION. 089026 13-03
- THE EFFECTS OF MORPHINE, PENTOBARBITAL AND CHLORPROMAZINE ON BIOELECTRICAL POTENTIALS EVOKED IN THE BRAIN STEM OF THE CAT BY ELECTRICAL STIMULATION OF THE GINGIVA AND TOOTH PULP. 094254 13-05
- STUDIES ON THE METHAMPHETAMINE STIMULATION IN MICE. 100505 13-03
- BEHAVIORAL AND EEG PATTERNS IN THE CAT COINCIDENT WITH SYSTEMATIC AND INTRACRANIAL STIMULATION WITH D-AMPHETAMINE SULFATE DURING A VISUAL DISCRIMINATION TASK. (PH.D.DISSERTATION). 102635 13-03
- STIMULATION OF BRAIN DOPAMINE SYNTHESIS BY GAMMA-HYDROXYBUTYRATE. 104010 13-03
- A BIPHASIC ACTION OF CENTRAL CHOLINERGIC STIMULATION ON BEHAVIORAL AROUSAL IN THE RAT. 104432 13-04
- LEARNED ESCAPE BEHAVIOR INDUCED BY BRAIN ELECTRICAL STIMULATION AND VARIOUS NEUROACTIVE AGENTS. 104786 13-04
- MAINTENANCE OF NORADRENALINE IN NEURONAL CELL BODIES AND TERMINALS: EFFECT OF FREQUENCY OF STIMULATION. 105410 13-03
- THE RELEASE OF 3H-DOPAMINE FROM CAT BRAIN FOLLOWING ELECTRICAL STIMULATION OF THE SUBSTANTIA-NIGRA AND CAUDATE NUCLEUS. 107046 13-03
- THE EFFECT OF IMIPRAMINE AND SELECTED DRUGS ON ATTACK ELICITED BY HYPOTHALAMIC STIMULATION IN THE CAT. 107960 13-04
- EVOKED POTENTIAL AND SINGLE UNIT STUDIES OF NEURAL MECHANISMS UNDERLYING THE EFFECTS OF REPETITIVE STIMULATION IN THE AUDITORY PATHWAY. 108671 13-03
- CHLORPROMAZINE STIMULATION AND L-DOPA SUPPRESSION OF PLASMA PROLACTIN IN MAN. 109042 13-13
- APPETITE SUPPRESSION AND CENTRAL NERVOUS SYSTEM STIMULATION IN THE RHESUS MONKEY. 110185 13-04
- A CONTROLLED COMPARISON OF DRUG EFFECTS ON ESCAPE FROM CONDITIONED AVERSIVE STIMULATION (ANXIETY) AND FROM CONTINUOUS SHOCK. 112313 13-04
- DIPHENYLHYDANTOIN (DILANTIN): STIMULATION OF POTASSIUM INFLUX IN LOBSTER AXONS. 117581 13-03
- INCREASE OF MORPHINE INDUCED ANALGESIA BY STIMULATION OF THE NUCLEUS RAPHE DORSALIS. 125653 13-03
- STIMULATOR**
- A STRAIN GAUGE PAIN STIMULATOR. 077930 13-16
- A BIPHASIC RADIO-CONTROLLED STIMULATOR. 088575 13-06
- STIMULI**
- FACILITATION OR IMPAIRMENT OF LEARNING BY D-AMPHETAMINE AS A FUNCTION OF STIMULI. 104795 13-04
- MESCALINE AND LYSERGIC ACID DIETHYLAMIDE (LSD) AS DISCRIMINATIVE STIMULI. 106489 13-04
- SUSCEPTIBILITY TO AUDIOGENIC STIMULI INDUCED BY HYPERBARIC OXYGENATION AND VARIOUS NEUROACTIVE AGENTS. 119724 13-03
- STIMULUS**
- AMYTAL AND THE SMALL TRIAL PARTIAL REINFORCEMENT EFFECT: STIMULUS PROPERTIES OF EARLY TRIAL NONREWARDS. 078938 13-04
- ATTENUATION OF STIMULUS SENSITIVITY BY SCOPOLAMINE. 079533 13-04
- STIMULUS SIGNIFICANCE AND CHLORPROMAZINE INDUCED IMPAIRMENT OF AVOIDANCE LEARNING IN MICE. 082759 13-04
- STIMULUS SIGNIFICANCE AND CHLORPROMAZINE EFFECTS ON THE EXPRESSION OF AVOIDANCE LEARNING IN MICE. 086900 13-04
- DRUGS AND STIMULUS BOUND ATTACK. 088672 13-04
- ATTENUATION OF STIMULUS SENSITIVITY INDUCED BY SCOPOLAMINE. 095197 13-04
- STIMULUS AND RESPONSE SPECIFICITY IN THE HABITUATION OF ANTIPREDATOR BEHAVIOUR IN THE RING DOVE (STREPTOPELIA RISORIA). 100047 13-09
- STIMULUS CONTROL DURING CHRONIC REDUCTION OF CHOLINESTERASE ACTIVITY. 102095 13-04

## Subject Index

- CNS EFFECT OF NICOTINE AS THE DISCRIMINATIVE STIMULUS FOR THE RAT IN A T-MAZE. 108732 13-04
- STORAGE**
- DEVELOPMENT OF THE UPTAKE AND STORAGE OF L-3H-NOREPINEPHRINE IN THE RAT BRAIN. 101846 13-03
- CORRELATION OF THE RECOVERY OF THE GRANULAR UPTAKE STORAGE MECHANISM AND THE NERVE IMPULSE INDUCED RELEASE OF (3H)NORADRENALINE AFTER RESERPINE. 120819 13-03
- BEHAVIOURAL EFFECT OF AMANTADINE IN RATS AFTER INHIBITION OF MONOAMINE SYNTHESIS, STORAGE AND RECEPTOR INTERACTION. 123277 13-03
- STORES**
- ACTION OF FENFLURAMINE ON MONOAMINE STORES OF RAT TISSUES. 089048 13-03
- PRELIMINARY EVIDENCE THAT SYROSGOPINE PRODUCES A SELECTIVE DEPLETION OF CENTRAL STORES OF SYMPATHOMIMETIC AMINES. 106422 13-03
- STORING**
- THE SUBCELLULAR DISTRIBUTION OF ENDOGENOUS AND EXOGENOUS SEROTONIN IN BRAIN TISSUE: COMPARISON OF SYNAPTOSOMES STORING SEROTONIN, NOREPINEPHRINE, AND GAMMA-AMINOBUTYRIC ACID. 077855 13-03
- STP**
- DOM (STP), A NEW HALLUCINOGENIC DRUG: SPECIFIC PERCEPTUAL CHANGES. 078958 13-12
- THE FATE OF 2,5 DIMETHOXY-4-METHYLAMPHETAMINE (STP,DOM) IN MONKEY AND RAT BRAINS. 086148 13-03
- STRAIN**
- A STRAIN GAUGE PAIN STIMULATOR. 077930 13-16
- EFFECTS OF STRAIN DIFFERENCES AND D-AMPHETAMINE SULFATE ON AVOIDANCE PERFORMANCE. 078250 13-02
- EFFECTS OF RIBONUCLEASE ON ACQUISITION AND RETENTION OF ESCAPE AVOIDANCE BEHAVIOR IN A SELECTIVELY BRED RAT STRAIN. 078453 13-04
- RAT STRAIN DIFFERENCES IN THE ACTIVITY OF HEPATIC MICROSOMAL ENZYMES. 118564 13-03
- STRAINS**
- PROACTIVE AND RETROACTIVE EFFECTS OF DIETHYL ETHER ON SPATIAL DISCRIMINATION LEARNING IN INBRED MOUSE STRAINS DBA/2J AND C57BL/6J. 079532 13-14
- AMNESIC EFFECTS OF CYCLOHEXIMIDE ON TWO STRAINS OF MICE WITH DIFFERENT MEMORY CHARACTERISTICS. 082799 13-04
- STRATEGY**
- LEARNING STRATEGY AND ITS TRANSFER UNDER THE INFLUENCE OF PHARMACOLOGICAL STRESS. 125921 13-14
- STREPTOPELIA-RISORIA**
- STIMULUS AND RESPONSE SPECIFICITY IN THE HABITUATION OF ANTIPREDATOR BEHAVIOUR IN THE RING DOVE (STREPTOPELIA-RISORIA). 100047 13-09
- STRESS**
- BRAIN HISTAMINE: RAPID APPARENT TURNOVER ALTERED BY RESTRAINT AND COLD STRESS. 078017 13-03
- MINOR TRANQUILLIZERS, STRESS AND CENTRAL CATECHOLAMINE NEURONS. 086808 13-03
- EFFECT OF CHLORDIAZEPoxide ON STRESS IN RATS. 089136 13-03
- BIOSYNTHESIS OF ADRENAL CATECHOLAMINES DURING ADAPTATION TO REPEATED IMMOBILIZATION STRESS (UNPUBLISHED PAPER). 093553 13-03
- EFFECTS OF CONFLICT AND STRESS ON ALCOHOL INTAKE IN RATS. 101758 13-04
- STRESS RELATED EFFECTS OF VARIOUS INHIBITORS OF CATECHOLAMINE SYNTHESIS IN THE MOUSE. 106152 13-03
- EFFECTS OF BUFOTENINE AND P-CHLOROPHENYLALANINE ON STRESS INDUCED BEHAVIOR. 106491 13-03
- EFFECT OF CHLORPROMAZINE AND PHENAMINE ON THE BASAL METABOLISM AND CONDITIONED REFLEX ACTIVITY IN RATS UNDER STRESS CONDITIONS. 113521 13-03

## Psychopharmacology Abstracts

- LEARNING STRATEGY AND ITS TRANSFER UNDER THE INFLUENCE OF PHARMACOLOGICAL STRESS. 125921 13-14
- STRIATUM**
- EFFECTS OF SOME PSYCHOTROPIC DRUGS ON DOPAMINE SYNTHESIS IN THE RAT STRIATUM. 082783 13-03
- ON THE MODE OF ACTION OF RESERPINE ON DOPAMINE METABOLISM IN THE RAT STRIATUM. 083162 13-03
- DESIPRAMINE (DMI): EFFECT ON THE LEVELS OF ACETYLCHOLINE (ACH) IN WHOLE BRAIN AND IN STRIATUM OF RATS. 086811 13-03
- STRIPS**
- THE EFFECT OF COCAINE ON CATECHOL-O-METHYLTRANSFERASE AND ON THE RESPONSE TO NOREPINEPHRINE OF RABBIT AORTIC STRIPS. 105391 13-03
- DECREASED CALCIUM UPTAKE BY RAT FUNDAL STRIPS AFTER PRETREATMENT WITH NEURAMINIDASE OR LSD IN VITRO. 105710 13-03
- STRUCTURAL**
- STRUCTURAL ANALOGS OF LYSERGIC ACID. 086796 13-01
- STRUCTURE**
- STRUCTURE ACTIVITY RELATIONSHIPS OF NORMEPERIDINE CONGENERS ON CHOLINESTERASE SYSTEMS IN VITRO AND ANALGESIA IN VIVO. 086822 13-03
- STRUCTURE ACTIVITY RELATIONSHIP OF S-TRIAZOLO 1,4 BENZODIAZEPINES IN CENTRAL NERVOUS DEPRESSANT ACTION. 105390 13-02
- N-SUBSTITUTED ANALOGUES OF NEUROLEPTICS OF THE OCTOCLOTHEPIN SERIES: RELATIONS BETWEEN STRUCTURE AND ACTIVITY. 105824 13-02
- STRUCTURE OF THE NEURON AND INTERNEURON LINKS IN THE BRAIN OF RATS UNDER THE EFFECT OF CAFFEINE AND PHENAMINE. 111137 13-03
- ON THE RELATIONSHIP BETWEEN THE CHEMICAL STRUCTURE AND PSYCHOTROPIC ACTIVITY AMONG DERIVATIVES OF BENZODIOXANE AND TRIMETHYLBENZOIC AND TRIMETHOXYBENZOIC ACIDS. 111291 13-03
- THE CRYSTAL STRUCTURE OF L-DOPA HYDROCHLORIDE, DIHYDROXYPHENYLALANINE HYDROCHLORIDE, C<sub>9</sub>H<sub>12</sub>O<sub>4</sub>N<sub>2</sub>CL. 113974 13-01
- CORRELATION OF CHEMICAL STRUCTURE OF PHENOTHIAZINES WITH THEIR CORONARY DILATOR AND ANTIARRHYTHMIC ACTIVITIES. 120929 13-03
- STRUCTURE-ACTIVITY**
- STRUCTURE-ACTIVITY STUDIES ON A 5-HYDROXYTRYPTAMINE RECEPTOR OF HELIX-ASPERSA NEVRONES. 120408 13-03
- STRUCTURES**
- THE COMPARISON OF THE EFFECTS OF ATROPINE AND BENACTYZINE ON SOME STRUCTURES OF LIMBIC SYSTEM OF THE RATS. 106092 13-03
- EFFECT OF ESERINE INJECTED INTRAVENTRICULARLY ON BEHAVIOUR AND ON ACTIVITY OF CHOLINESTERASE IN SOME STRUCTURES OF THE CEREBRAL VENTRICLES OF THE CONSCIOUS CAT. 106424 13-04
- STRYCHNINE**
- DIAZEPAM TREATMENT IN A CASE OF STRYCHNINE POISONING. 099085 13-13
- STRYCHNINE POISONING TREATED SUCCESSFULLY WITH DIAZEPAM. 100133 13-13
- THE EFFECT OF STRYCHNINE ADMINISTRATION DURING DEVELOPMENT ON ADULT MAZE LEARNING IN THE RAT II: DRUG ADMINISTRATION FROM DAY 51 TO 70. 104377 13-04
- THE ATTENUATING EFFECT OF STRYCHNINE AND PHYSOSTIGMINE ON DURAL ELECTROCONVULSIVE SHOCK INDUCED RETROGRADE AMNESIA. (PH.D. DISSERTATION). 109358 13-04
- EFFECTS OF STRYCHNINE DURING DIFFERENT PERIODS OF DEVELOPMENT ON MAZE LEARNING IN ADULT RATS. 120961 13-03
- STUDYING**
- A METHOD FOR STUDYING THE INFLUENCES OF DRUGS ON LEARNING FOR FOOD REWARDS IN RATS. 125249 13-06
- STUPOR**
- THE USE OF INTRAVENOUS DIAZEPAM IN STUPOR. 102798 13-09
- STUPOROUS**
- SOME PATHOPHYSIOLOGICAL FEATURES OF THE EFFECT OF AMINAZINE IN THE STUPOROUS SYNDROME. 102668 13-13
- ATTEMPT TO TREAT STUPOROUS STATES WITH FLUPHENAZINE COMBINED WITH CERTAIN HORMONES. 125787 13-08

- STUTTERERS**  
CONTROLLED TRIAL OF THE TREATMENT OF 36 STUTTERERS. 107595 13-11
- STYLES**  
COGNITIVE STYLES IN HYPERACTIVE CHILDREN AND THE EFFECT OF METHYLPHENIDATE. 099939 13-11
- SUBACUTE**  
THE EFFECTS OF SUBACUTE ADMINISTRATION OF TRIIODOTHYRONINE (T3) ON THE ACUTE TOXICITY OF LITHIUM IN THE RAT. 107864 13-05
- SUBCELLULAR**  
EFFECTS OF IMIPRAMINE ON THE NA-ION DEPENDENT EXCHANGE AND RETENTION OF GAMMA-AMINOBUTYRIC ACID BY MOUSE BRAIN SUBCELLULAR PARTICLES. 077725 13-03  
THE SUBCELLULAR DISTRIBUTION OF ENDOGENOUS AND EXOGENOUS SEROTONIN IN BRAIN TISSUE. COMPARISON OF SYNAPTOSOMES STORING SEROTONIN, NOREPINEPHRINE, AND GAMMA-AMINOBUTYRIC ACID. 077855 13-03  
REGIONAL AND SUBCELLULAR CHANGES IN THE CONCENTRATION OF 5-HYDROXYTRYPTAMINE AND 5-HYDROXYINDOLEACETIC ACID IN THE RAT BRAIN CAUSED BY HYDROCORTISONE, DL-ALPHA-METHYLTRYPTOPHAN, L-KYNURENE AND IMMOBILIZATION. 104538 13-03  
EFFECT OF IN VIVO ETHANOL ADMINISTRATION ON ADENOSINETRIPHOSPHATASE ACTIVITY OF SUBCELLULAR FRACTIONS OF MOUSE BRAIN AND LIVER. 105518 13-03  
THE UPTAKE AND SUBCELLULAR DISTRIBUTION OF AROMATIC AMINES IN THE BRAIN OF THE RAT. 106922 13-03  
SUBCELLULAR DISTRIBUTION OF 8-14C-MESCALINE IN THE MOUSE BRAIN AND LIVER. 120471 13-03
- SUBCHRONIC**  
THE INFLUENCE OF SUBCHRONIC TETRAHYDROCANNABINOL AND CANNABIS TREATMENT ON FOOD AND WATER INTAKE, BODY WEIGHT AND BODY TEMPERATURE OF RATS. 123267 13-03  
HEXOBARBITAL SLEEPING TIME AND AMPHETAMINE MOTILITY AFTER SUBCHRONIC TETRAHYDROCANNABINOL TREATMENT. 123284 13-03
- SUBCORTICAL**  
EFFECT OF ANESTHETIC DOSES OF GAMMA-HYDROXYBUTYRATE ON SUBCORTICAL CONCENTRATION OF HOMOVANILLIC ACID. 086813 13-03  
EFFECTS OF BENZODIAZEPINES ON SPONTANEOUS ELECTRICAL ACTIVITY OF SUBCORTICAL AREAS IN BRAIN OF CAT. 103649 13-03
- SUBCUTANEOUS**  
MODIFICATION OF AN OPERANT CONDITIONING IN RAT AFTER A SUBCUTANEOUS INJECTION OF HISTAMINE. 119914 13-04
- SUBFRACTIONS**  
BIOCHEMICAL STUDIES OF CEREBRAL SUBFRACTIONS AFTER CHRONIC ADMINISTRATION OF PYRIDAZINE (N MORPHOLINE 3-ETHYLAMINE 4-PHENYL 6-PYRIDAZINE HYDROCHLORIDE, AG-620). 102694 13-03
- SUBJECT**  
SINGLE SUBJECT DESIGNS FOR ASSESSMENT OF PSYCHOTROPIC DRUG EFFECTS IN CHILDREN. 112085 13-14
- SUBJECTIVE**  
REVIEW OF THE EFFECTS IN MAN OF MARIJUANA AND TETRAHYDROCANNABINOLS ON SUBJECTIVE STATE AND PHYSIOLOGIC FUNCTIONING (UNPUBLISHED PAPER). 092101 13-13  
PHYSIOLOGIC, SUBJECTIVE AND BEHAVIORAL EFFECTS OF AMPHETAMINE, METHAMPHETAMINE, EPHEDRINE, PHENMETRAZINE, AND METHYLPHENIDATE IN MAN. 095003 13-13
- SUBJECTS**  
APPETITE STIMULATING AND WEIGHT GAIN PROPERTIES OF CYPROHEPTADINE (PERIACIN) IN GERIATRIC SUBJECTS. 074314 13-11  
EFFECTS OF PSYCHOACTIVE DRUGS ON CONFLICT AVOIDANCE BEHAVIOR IN HUMAN SUBJECTS. 086572 13-14  
METABOLISM AND DISPOSITION OF TETRAHYDROCANNABINOLS IN NAIVE SUBJECTS AND MARIJUANA USERS (UNPUBLISHED PAPER). 092894 13-13  
EFFECTS OF 5-HYDROXYTRYPTOPHAN ON THE SLEEP OF NORMAL HUMAN SUBJECTS. 098149 13-14  
THE EFFECTS OF DIAZEPAM OR DIPHENHYDRAMINE ON HEALTHY HUMAN SUBJECTS. 102194 13-14
- EFFECTS OF PLACEBO AND FLURAZEPAM ON SLEEP PATTERNS IN INSOMNIAC SUBJECTS. 104367 13-14  
RUBIDIUM CHLORIDE INGESTION BY VOLUNTEER SUBJECTS: INITIAL EXPERIENCE. 104438 13-07  
AN ANALYSIS OF THE EFFECTS OF METHAQUALONE AND GLUTETHIMIDE ON SLEEP IN INSOMNIAC SUBJECTS. 105119 13-14  
PHARMACOLOGICAL BLOCKADE OF AMPHETAMINE EFFECTS IN SUBJECTS DEPENDENT ON CENTRAL STIMULANTS. 123292 13-13
- SUBLIMATE**  
EFFECT OF HASHISH SMOKE SUBLIMATE ON HYPOTHALAMIC NORADRENALINE STUDIED BY THE FLUORESCENCE METHOD. 106486 13-03
- SUBMAXILLARY**  
PROTEIN METABOLISM AND AMINO ACID ACCUMULATION IN THE RAT SUBMAXILLARY GLAND DURING REDUCED SYMPATHETIC ACTIVITY. 087123 13-03  
CATECHOL-O-METHYLTRANSFERASE AND MONOAMINE OXIDASE ACTIVITIES IN RAT SUBMAXILLARY GLAND: EFFECTS OF LIGATION, SYMPHECTOMY AND SOME DRUGS. 099645 13-03
- SUBMITTED**  
INFLUENCE OF (-)-DELTA(G) TRANS-TETRAHYDROCANNABINOL AND MESCALINE ON THE BEHAVIOR OF RATS SUBMITTED TO FOOD COMPETITION SITUATIONS. 104578 13-04
- SUBNARCOTIC**  
THE INFLUENCE OF ANTIPARKINSON AGENTS UPON SUBNARCOTIC AND CHOLINERGIC POTENTIATION OF BARBITAL IN MICE. 122048 13-03
- SUBNORMAL**  
EVALUATION OF TRANQUILLISERS WITH SUBNORMAL PATIENTS. 098736 13-14  
EVALUATION OF TRANQUILLISERS WITH SUBNORMAL PATIENTS: 2. PERICYAZINE AND CHLORPHLOMAZINE. 099440 13-09  
EVALUATION OF TRANQUILLISERS WITH SUBNORMAL PATIENTS: 3. BEHAVIOURAL CHANGES. 099747 13-14
- SUBSEQUENT**  
EFFECTS OF METHAMPHETAMINE AND SHOCK DURATION DURING INESCAPABLE SHOCK EXPOSURE ON SUBSEQUENT ACTIVE AND PASSIVE AVOIDANCE. 102549 13-04  
EFFECT OF PHENAMINE INDUCED INSOMNIA AND OF SUBSEQUENT SLEEP ON PROTEIN CONTENT IN THE NEURONS AND GLIAL CELLS OF THE SUPRAOPTIC AND RED NUCLEI OF THE BRAIN. 111831 13-03
- SUBSTANCE**  
PHARMACOLOGICAL STUDIES OF 5-METHYL-8-ETHYL-SULFONYL-10-(2-DIMETHYLAMINOETHYL) 5H DIBENZODIAZEPINEONE (SM-307), AN ANTIDEPRESSIVE SUBSTANCE. 096303 13-03
- SUBSTANTIA-NIGRA**  
THE RELEASE OF 3H-DOPAMINE FROM CAT BRAIN FOLLOWING ELECTRICAL STIMULATION OF THE SUBSTANTIA-NIGRA AND CAUDATE NUCLEUS. 107046 13-03  
TREMOROGENESIS: EFFECTS OF RESERPIN ON THE SUBSTANTIA-NIGRA. 122537 13-03  
CHOLINERGIC AND NEUROLEPTIC INDUCED CATALEPSY: MODIFICATION BY LESIONS IN THE GLOBUS-PALLIDUS AND SUBSTANTIA-NIGRA. 122542 13-03
- SUBSTITUTED**  
THE DEVELOPMENT OF SYNTHETIC TECHNIQUES TO INTRODUCE A FUNCTIONALIZED CARBON SUBSTITUENT REGIOSELECTIVELY INTO THE BENZENE RING OF AN INDOLE NUCLEUS. 112783 13-01
- SUBSTITUENTS**  
HYDROXYINDOLE-O-METHYLTRANSFERASE V: EFFECTS OF SUBSTITUENTS ON HYDROLYSIS OF N-ACYLTRYPTAMINES IN RATS. 082761 13-03
- SUBSTITUTED**  
SYNTHESIS AND ANTICONVULSANT ACTIVITY OF SUBSTITUTED 2-THIOQUINAZOLIN-4-ONES I: PRELIMINARY STUDIES. 080630 13-02  
HYDROXYINDOLE-O-METHYLTRANSFERASE VI: INHIBITORY ACTIVITIES OF SUBSTITUTED BENZOYLTRYPTAMINES AND BENZENESULFONYLTRYPTAMINES. 082762 13-01  
SUBSTITUTED PHENOTHIAZINE ANTIPSYCHOTICS. 085473 13-17  
THE PREPARATION OF 6 SUBSTITUTED PTERINS VIA THE ISAY REACTION (UNPUBLISHED PAPER). 092896 13-01

## Subject Index

## Psychopharmacology Abstracts

- SUBSTITUTION**  
THE INFLUENCE OF METHYL SUBSTITUTION ON THE N-DEMETHYLATION AND N-OXIDATION OF N-DESMETHADONE IN ANIMAL SPECIES. 106423 13-03
- SUBSTRATE**  
ETHANOL AND THE NEURAL SUBSTRATE FOR AFFECTIVE DEFENSE IN THE CAT. 101748 13-04
- SUCCINATE**  
LOXAPINE SUCCINATE IN THE TREATMENT OF UNCONTROLLABLE DESTRUCTIVE BEHAVIOR. 117023 13-11
- SUCCEPTIBILITY**  
DOPA REVERSAL OF RESERPINE ENHANCEMENT OF AUDIOGENIC SEIZURE SUCCEPTIBILITY IN MICE. 088577 13-03
- SUCROSE**  
EFFECTS OF INSULIN PREPARATIONS ON TITRATED SUCROSE REGULATION. 104074 13-04
- SUGGESTIONS**  
SUGGESTIONS FOR DRUG STUDIES IN ALCOHOLISM. 095543 13-11
- SUICIDES**  
DETERMINATION OF THE COMPONENTS OF A COMBINED PREPARATION OF GLUTETHIMIDE, AMOBARBITAL AND PROMETHAZINE IN AUTOPSY MATERIAL FROM SEVERAL SUICIDES. 089151 13-15
- SULFATE**  
PREDICTING THE RESPONSE OF CHILDREN WITH LEARNING DISABILITIES AND BEHAVIOR PROBLEMS TO DEXTROAMPHETAMINE SULFATE. 077911 13-11  
EFFECTS OF STRAIN DIFFERENCES AND D-AMPHETAMINE SULFATE ON AVOIDANCE PERFORMANCE. 078250 13-02  
USE OF CERIC SULFATE AND CUPRIC PERCHLORATE FOR TITRIMETRIC ANALYSES OF PHENOTHIAZINE DERIVATIVES. 082763 13-06  
BEHAVIORAL AND EEG PATTERNS IN THE CAT COINCIDENT WITH SYSTEMATIC AND INTRACRANIAL STIMULATION WITH D-AMPHETAMINE SULFATE DURING A VISUAL DISCRIMINATION TASK. (PH.D. DISSERTATION). 102635 13-03  
A COMPARISON OF SIDE-EFFECTS BETWEEN LITHIUM ACETATE AND LITHIUM SULFATE. 103794 13-15
- SULFOXIDE**  
URINARY EXCRETION OF CHLORPROMAZINE AND CHLORPROMAZINE SULFOXIDE IN FOUR PATIENTS ON DIFFERENT DAYS. 086576 13-13  
SYNTHESIS OF POSSIBLE METABOLITES OF CHLORPROMAZINE, IV. 7-HYDROXY-NOR-1- AND NOR-2-CHLORPROMAZINE SULFOXIDE. 094791 13-01  
URINARY EXCRETION OF PERPHENAZINE AND ITS SULFOXIDE DURING ADMINISTRATION IN ORAL AND LONG-ACTING INJECTABLE FORM. 102185 13-15
- SULPHOXIDE**  
NOR-2-CHLORPROMAZINE SULPHOXIDE, A PINK-SPOT PRODUCED IN VIVO AND IN VITRO FROM CHLORPROMAZINE. 089324 13-03
- SULPIRIDE**  
CONTROLLED TRIAL OF SULPIRIDE IN PSYCHIATRY. 090792 13-14  
CLINICAL AND PHARMACOLOGICAL INVESTIGATION OF A NEW PSYCHOTROPIC DRUG SULPIRIDE (DOGMATIL). 105825 13-07  
ACTION AND ROLE OF SULPIRIDE IN THE TREATMENT OF ABDOMINAL PAIN SYNDROMES ASSOCIATED WITH PSYCHIATRIC PROBLEMS. 121849 13-17
- SULTHIAMINE**  
USEFULNESS OF SULTHIAMINE IN THE TREATMENT OF EPILEPSY. 123892 13-11
- SUPERNATANT**  
EFFECT OF TRIPHENYLAMINE AND CHLORPROMAZINE ON NORADRENALINE AND ATP CONCENTRATION IN THE GRANULATION AND SUPERNATANT FRACTIONS OF THE BRAIN STEM. 111293 13-03
- SUPERSENSITIVITY**  
ANALYSIS OF THE SUPERSENSITIVITY TO NORADRENALINE INDUCED BY AMPHETAMINE IN THE ISOLATED VAS-DEFERENS OF THE RAT. 121065 13-03  
SUPERSENSITIVITY OF CENTRAL NORADRENALINE RECEPTORS AFTER RESERPINE. 125409 13-03
- SUPPORT**  
THE EFFECTS OF A TRANQUILIZER ON THE IMMOBILITY REACTION IN CHICKENS; ADDITIONAL SUPPORT FOR THE FEAR HYPOTHESIS. 088069 13-04
- SUPPRESSED**  
THE EFFECTS OF VARIOUS ANTIDEPRESSANT DRUGS UPON THE TETRABENAZINE SUPPRESSED CONDITIONED AVOIDANCE RESPONSE IN RATS. 105013 13-04
- SUPPRESSION**  
DISSOCIATIVE EFFECTS OF DRUGS ON THE EXTINCTION OF CONDITIONED SUPPRESSION IN THE RAT. 086772 13-04  
SUPPRESSION OF HIPPOCAMPAL DFP DISCHARGES BY CHLORPROMAZINE, IMIPRAMINE AND DESIPRAMINE. 086733 13-03  
SUPPRESSION OF FIGHTING BEHAVIOUR IN RABBITS BY PAIRED EMERGENCE FROM ANESTHESIA. 095364 13-04  
DRUG-INDUCED SUPPRESSION OF CONDITIONED HYPERTHERMIC AND CONDITIONED AVOIDANCE BEHAVIOR RESPONSE IN RATS. 104144 13-04  
CHLORPROMAZINE STIMULATION AND L-DOPA SUPPRESSION OF PLASMA PROLACTIN IN MAN. 109042 13-13  
APPETITE SUPPRESSION AND CENTRAL NERVOUS SYSTEM STIMULATION IN THE RHESUS MONKEY. 110185 13-04
- SUPRAOPTIC**  
NORADRENALINE AND ACETYLCHOLINE RESPONSES OF SUPRAOPTIC NEUROSECRETORY CELLS (UNPUBLISHED PAPER). 092379 13-03  
EFFECT OF PHENAMINE INDUCED INSOMNIA AND OF SUBSEQUENT SLEEP ON PROTEIN CONTENT IN THE NEURONS AND GLIAL CELLS OF THE SUPRAOPTIC AND RED NUCLEI OF THE BRAIN. 111831 13-03
- SURGICAL**  
ANOREXIA-NERVOSA, ITS PSYCHIATRIC, INTERNAL AND SURGICAL PROBLEMS. 087042 13-10
- SURVEY**  
A SURVEY OF PRESCRIBING PATTERNS IN COMMON PSYCHIATRIC CONDITIONS. 086525 13-17  
A SURVEY OF SELECTED DRUGS ON BEHAVIOR PERFORMANCE IN ETHANOL TREATED RATS. 099649 13-04  
LONG-TERM ADMINISTRATION OF DOXEPIN (SINEQUAN); CLINICAL AND LABORATORY SURVEY OF 40 PATIENTS. 102593 13-09  
LITHIUM CARBONATE: A SURVEY OF THE HISTORY AND CURRENT STATUS OF LITHIUM IN TREATING MOOD DISORDERS. (UNPUBLISHED PAPER). 106053 13-09
- SUSCEPTIBILITY**  
RELATIONSHIP BETWEEN BRAIN MONOAMINES AND SEIZURE SUSCEPTIBILITY. (PH.D. DISSERTATION). 109145 13-13  
SUSCEPTIBILITY TO AUDIOGENIC STIMULI INDUCED BY HYPERBARIC OXYGENATION AND VARIOUS NEUROACTIVE AGENTS. 119724 13-03
- SUSPECTED**  
AUTORADIOGRAPHY OF SOME SUSPECTED NEUROTRANSMITTER SUBSTANCES; GABA GLYCINE, GLUTAMIC ACID, HISTAMINE, DOPAMINE, AND L-DOPA. 109417 13-03
- SUSTAINED**  
SIDE-EFFECTS OF A SUSTAINED RELEASE LITHIUM PREPARATION. 101409 13-15  
CLINICAL STUDY OF THE EFFECT OF SUSTAINED RELEASE THIORIDAZINE IN LONG-TERM PSYCHIATRIC HOSPITAL PATIENTS. 121457 13-07
- SU17595A**  
NEUROPHARMACOLOGICAL PROPERTIES OF SU17595A, A CHLORPROMAZINE-LIKE CENTRAL NERVOUS SYSTEM DEPRESSANT. 098158 13-03
- SYDNOCARB**  
EXPERIMENTAL AND CLINICAL INVESTIGATION OF THE NEW PSYCHOSTIMULATOR SYDNOCARB. 107728 13-13
- SYMPATHECTOMY**  
SERUM DOPAMINE-BETA-HYDROXYLASE; DECREASE AFTER CHEMICAL SYMPATHECTOMY. 099018 13-03  
CATECHOL-O-METHYLTRANSFERASE AND MONOAMINE OXIDASE ACTIVITIES IN RAT SUBMAXILLARY GLAND; EFFECTS OF LIGATION, SYMPATHECTOMY AND SOME DRUGS. 099645 13-03
- SYMPATHETIC**  
THE EFFECT OF SYMPATHETIC BETA-RECEPTOR BLOCKING AGENTS ON THE COURSE OF DELIRIUM-TREMENS. 086073 13-13

- PROTEIN METABOLISM AND AMINO ACID ACCUMULATION IN THE RAT SUBMAXILLARY GLAND DURING REDUCED SYMPATHETIC ACTIVITY. 087123 13-03
- THE ACCUMULATION OF 14C-SEROTONIN IN THE SYMPATHETIC NERVES OF THE GUINEA-PIG VAS-DEFERENS (UNPUBLISHED PAPER). 092689 13-03
- SELECTIVE EFFECT OF DIAZEPAM ON CERTAIN CENTRAL SYMPATHETIC COMPONENTS. 107963 13-03
- MONOAMINE OXIDASE IN SYMPATHETIC NERVES: A TRANSMITTER SPECIFIC ENZYME TYPE. 108792 13-03
- EFFECTS OF SEROTONIN (5-HT) AND SOME RELATED INDOLE COMPOUNDS IN A MAMMALIAN SYMPATHETIC GANGLION. 125596 13-03
- SYMPATHOMIMETIC**
- PRELIMINARY EVIDENCE THAT SYROSGINGOPINE PRODUCES A SELECTIVE DEPLETION OF CENTRAL STORES OF SYMPATHOMIMETIC AMINES. 106422 13-03
- RELEASE OF CATECHOLAMINE FROM THE CAT HEART BY SOME DIRECTLY AND INDIRECTLY ACTING SYMPATHOMIMETIC AMINES. 108288 13-03
- EFFECTS OF SOME SYMPATHOMIMETIC DRUGS AND THEIR ANTAGONIST ON AFTERDISCHARGES ELICITED IN CHRONICALLY ISOLATED SLABS OF CEREBRAL CORTEX. 108793 13-03
- CENTRAL EFFECTS OF SYMPATHOMIMETIC AMINES ON THE BLOOD PRESSURE. 120718 13-03
- SYMPTOMATIC**
- DRUG, DOCTOR WARMTH, AND CLINIC SETTING IN THE SYMPTOMATIC RESPONSE TO MINOR TRANQUILIZERS. 104143 13-10
- SYMPTOMS**
- PERSISTENCE OF NEUROLOGICAL SYMPTOMS DUE TO NEUROLEPTIC DRUGS. 088145 13-15
- LIFE HISTORY AND SYMPTOMS IN SCHIZOPHRENIA. 095221 13-08
- EVALUATING CHANGES IN SYMPTOMS DURING ACUTE ALCOHOLIC WITHDRAWAL. 097378 13-11
- TREATMENT OF EMOTIONAL SYMPTOMS AND INSOMNIA WITH PLEXONAL. 099158 13-11
- COMPARATIVE EVALUATION OF DIAZEPAM (VALIUM) AND PHENOBARBITAL: FOR THE RELIEF OF ANXIETY RELATED SYMPTOMS IN PATIENTS HOSPITALIZED FOR ACUTE MYOCARDIAL INFARCTION. 100626 13-14
- L-DOPA IN THE TREATMENT OF DEPRESSIVE SYMPTOMS. 101888 13-09
- SCALE FOR RATING TREATMENT EMERGENT SYMPTOMS IN PSYCHIATRY DVP. 105837 13-15
- A QUANTITATIVE STUDY OF NEUROLEPTIC INDUCED EXTRAPYRAMIDAL SYMPTOMS AND THEIR RESPONSE TO DEXETIMIDE, A POTENT AND LONG-ACTING ANTIPARKINSONIAN AGENT. 115396 13-13
- WITHDRAWAL SYMPTOMS FOLLOWING CESSATION OF PROLONGED NEUROLEPTIC THERAPY. 118127 13-08
- EFFECT OF 7-BROMO-5-(2-PYRIDYL)-3H-1,4 BENZODIAZEPINONE, BROMAZEPAM (RO-5-3350), A NEW MINOR TRANQUILIZER, ON PSYCHONEUROSIS WITH SPECIAL REFERENCE TO THE OBSSIVE-COMPULSIVE SYMPTOMS. 118969 13-10
- EXTRAPYRAMIDAL MOTORIC SYMPTOMS AND EEG CHANGES AFTER APPLICATION OF PHENOTHIAZINE DERIVATIVES. 123602 13-15
- SYNAPSES**
- FUNCTIONING OF IDENTIFIED NEURONS AND SYNAPSES IN ABDOMINAL GANGLION OF APLYSIA IN ABSENCE OF PROTEIN SYNTHESIS. 102512 13-03
- SYNAPTIC**
- SLOW SYNAPTIC EXCITATION: EVIDENCE FOR SYNAPTIC INACTIVATION OF POTASSIUM CONDUCTANCE (UNPUBLISHED PAPER). 094923 13-03
- A POSSIBLE SYNAPTIC MECHANISM UNDERLYING THE SIMILAR BEHAVIOURAL EFFECTS OF ADRENALINE-LIKE AND ACETYLCHOLINE-LIKE DRUGS. 106846 13-13
- THE ULTRASTRUCTURE OF THE SYNAPTIC APPARATUS FOLLOWING INTRODUCTION OF PHENAMINE AND HALOPERIDOL. 107720 13-03
- SYNAPTOSOMES**
- THE SUBCELLULAR DISTRIBUTION OF ENDOGENOUS AND EXOGENOUS SEROTONIN IN BRAIN TISSUE: COMPARISON OF SYNAPTOSOMES STORING SEROTONIN, NOREPINEPHRINE, AND GAMMA-AMINOBUTYRIC ACID. 077855 13-03
- UPTAKE OF DIHYDROMORPHINE-3H BY SYNAPTOSOMES. 082791 13-03
- EFFECT OF MORPHINE ON PROTEIN SYNTHESIS IN SYNAPTOSOMES AND MITOCHONDRIA OF MOUSE BRAIN. 123273 13-03
- SYNCHRONIZED**
- CHLORPROMAZINE EFFECTS ON MACROMOLECULAR SYNTHESIS IN SYNCHRONIZED TETRAHYEMIA. 105014 13-03
- SYNDROME**
- A CASE WITH GILLES-DE-LA-TOURETTES SYNDROME: RECURRENT REFRACTORINESS TO HALOPERIDOL AND UNSUCCESSFUL TREATMENT WITH L-DOPA. 085013 13-10
- 5-HYDROXYTRYPTOPHAN (5-HTP) IN DOWNS SYNDROME. 086993 13-11
- MEPROBAMATE THERAPY FOR THE MYOFASCIAL PAIN DYSFUNCTION (MPD) SYNDROME: A DOUBLE-BLIND EVALUATION. 089881 13-17
- ELECTROENCEPHALOGRAPHIC STUDIES ON CODEINE DEPENDENCE IN RAT WITH SPECIAL REFERENCE TO THE SPIKE FORMATION IN THE HIPPOCAMPUS DURING ABSTINENCE SYNDROME. 098304 13-03
- THE USE OF CYCLANDELATE IN CHRONIC BRAIN SYNDROME WITH ARTERIOSCLEROSIS. 100536 13-11
- DIAZEPAM IN THE MANAGEMENT OF THE NEONATAL NARCOTIC WITHDRAWAL SYNDROME. 101432 13-11
- SOME PATHOPHYSIOLOGICAL FEATURES OF THE EFFECT OF AMINAZINE IN THE STUPOROUS SYNDROME. 102668 13-13
- EXPERIENCE WITH TREATMENT OF INDOLENT SCHIZOPHRENIA WITH THE CENESTHOPATHIC HYPOCHONDRIACAL SYNDROME. 102669 13-08
- ON THE CLINICAL PICTURE OF THE SO-CALLED PSYCHOPATHIC-LIKE SYNDROME IN ADOLESCENT GIRLS. 102715 13-17
- CLINICAL DANGERS OF PSYCHOLOGICAL THEORIZING: THE GILLES-DE-LA-TOURETTE SYNDROME. 104558 13-17
- ON THE THERAPY AND PROBLEMATIC NATURE OF PARKINSON SYNDROME. 105491 13-15
- STAFF MAN SYNDROME AND TRAUMA. 105547 13-11
- INHIBITORY EFFECT OF CHLORPROMAZINE ON THE SYNDROME OF HYPERACTIVITY PRODUCED BY L-TRYPTOPHAN OR 5-METHOXY-N,N DIMETHYLTRYPTAMINE TREATED WITH A MONOAMINE OXIDASE INHIBITOR. 108795 13-03
- PHENYTOIN AND THE PSEUDOLYMPHOMA SYNDROME. 108799 13-15
- EXPERIMENTAL CHARACTERISTICS OF SOME MANIFESTATIONS COMMON TO THE WITHDRAWAL SYNDROME FOLLOWING DISCONTINUANCE OF LONG-TERM ADMINISTRATION OF DIAZEPAM AND CHLORDIAZEPOXIDE. 111134 13-04
- THE CLINICAL PICTURE AND MANAGEMENT OF GILLES-DE-LA-TOURETTES SYNDROME. 118778 13-09
- ACUTE ORGANIC BRAIN SYNDROME WITH PROPRANOLOL. 125503 13-15
- CLINICAL OBSERVATIONS ON THE COMPOSITE TREATMENT OF PARKINSONS SYNDROME WITH L-DOPA AND THE DECARBOXYLASE INHIBITOR RO-4-4602. 125996 13-11
- SYNDROMES**
- FLUPENTHIXOL (FLUANXOL) IN THE TREATMENT OF APATHIC SYNDROMES OF SCHIZOPHRENIC ORIGIN. 089300 13-08
- THIOTHIXENE (NAVANE) IN THE TREATMENT OF APATHIC SYNDROMES OF SCHIZOPHRENIC ORIGIN. 089303 13-08
- CLINICAL STUDY OF PIRIBEDIL WITH SYNDROMES OF INTELLECTUAL DETERIORATION IN AMNESIA. 093701 13-11
- PSYCHIATRY AND IMMUNOLOGY: CONTRIBUTION OF THE EXPERIMENTAL STUDY OF THE IMMUNODEPRESSANT EFFECT OF A CORRECTOR OF EXTRAPYRAMIDAL SYNDROMES INDUCED BY NEUROLEPTICS: ETHYLBENZATROPINE. 100604 13-11
- ON THERAPY FOR DIENCEPHALOALLERGIC SYNDROMES. 102711 13-17

## Subject Index

- THE ANTIHYPERTENSIVE ACTION OF A NOVEL ANXIOLYTIC AND  
TENSIOLYTIC DRUG (BENZOTAMINE) IN TWO DIFFERENT WRITHING  
SYNDROMES. 118200 13-02
- CLINICAL EVALUATION OF DIBENZAZEPINE (NOVERIL) IN THE TREATMENT  
OF DEPRESSIVE SYNDROMES. 118209 13-09
- ACTION AND ROLE OF SULPIRIDE IN THE TREATMENT OF ABDOMINAL  
PAIN SYNDROMES ASSOCIATED WITH PSYCHIATRIC PROBLEMS. 121849 13-17
- RESULTS OF ADMINISTRATION OF ANAFRANIL IN ENDOGENOUS  
DEPRESSIVE SYNDROMES. 125786 13-09
- SYNTHESIS**  
CHLORPROMAZINE EFFECTS ON MACROMOLECULAR SYNTHESIS IN  
SYNCHRONIZED TETRAHYMENA. 105014 13-03
- SYNTHESIS**  
EFFECTS OF LEARNING, AMPHETAMINE AND NICOTINE ON THE LEVEL  
AND SYNTHESIS OF BRAIN NORADRENALINE IN RATS. 078012 13-03
- SYNTHESIS AND ANTICONVULSANT ACTIVITY OF SUBSTITUTED 2-  
THIOQUINAZOLIN-4-ONES I. PRELIMINARY STUDIES. 080630 13-02
- EFFECTS OF SOME PSYCHOTROPIC DRUGS ON DOPAMINE SYNTHESIS IN  
THE RAT STRIATUM. 082783 13-03
- DOPAMINE NOREPINEPHRINE: ANOTHER REGULATORY STEP OF  
NOREPINEPHRINE SYNTHESIS IN CENTRAL NORADRENERGIC NEURONS. 082825 13-03
- A SIMPLE PROCEDURE FOR CALCULATING THE SYNTHESIS RATE OF  
NOREPINEPHRINE, DOPAMINE AND SEROTONIN IN RAT BRAIN. 082879 13-06
- EFFECTS OF EXCESS PHENYLALANINE ON IN VITRO AND IN VIVO RNA  
AND PROTEIN SYNTHESIS AND POLYRIBOSOME LEVELS IN BRAINS OF  
MICE. 086806 13-03
- STUDIES IN VIVO ON THE RELATIONSHIP BETWEEN BRAIN TRYPTOPHAN,  
BRAIN 5-HT SYNTHESIS AND HYPERACTIVITY IN RATS TREATED WITH  
A MONOAMINE OXIDASE INHIBITOR AND L-TRYPTOPHAN. 087124 13-03
- EFFECTS OF ACUTE AND CHRONIC ETHANOL ADMINISTRATION ON  
RIBOSOMAL PROTEIN SYNTHESIS IN MOUSE BRAIN AND LIVER. 088558 13-03
- STIMULATION OF (14C) SEROTONIN SYNTHESIS FROM (14C)  
TRYPTOPHAN BY Mescaline IN RAT PINEAL ORGAN CULTURES. 088702 13-03
- EFFECT OF INHIBITION OF CATECHOLAMINE SYNTHESIS ON CENTRAL  
CATECHOLAMINE-CONTAINING NEURONES IN THE DEVELOPING ALBINO  
RAT. 089441 13-03
- SYNTHESIS OF POSSIBLE METABOLITES OF CHLORPROMAZINE. IV. 7-  
HYDROXY-NOR- AND NOR-2-CHLORPROMAZINE SULFOXIDE. 094791 13-01
- FUNCTIONING OF IDENTIFIED NEURONS AND SYNAPSES IN ABDOMINAL  
GANGLION OF APLYSIA IN ABSENCE OF PROTEIN SYNTHESIS. 102512 13-03
- 6-BETA-HYDROXY-DELTA(1) TETRAHYDROCANNABINOL SYNTHESIS AND  
BIOLOGICAL ACTIVITY. 103707 13-01
- STIMULATION OF BRAIN DOPAMINE SYNTHESIS BY GAMMA-  
HYDROXYBUTYRATE. 104010 13-03
- EFFECT OF CHRONIC ADMINISTRATION OF NICOTINE ON THE  
CONCENTRATIONS OF ADRENAL ENZYMES INVOLVED IN THE  
SYNTHESIS AND METABOLISM OF ADRENALINE. 104535 13-03
- THE EFFECT OF DRUGS INFLUENCING AMINE SYNTHESIS ON THE  
ANALGESIC ACTION OF TREMORINE. 104804 13-03
- STRESS RELATED EFFECTS OF VARIOUS INHIBITORS OF CATECHOLAMINE  
SYNTHESIS IN THE MOUSE. 106152 13-03
- ANXIOLYTIC SEDATIVES. I. SYNTHESIS AND PHARMACOLOGY OF  
BENZODIAZEPINOXAZOLE DERIVATIVES AND ANALOGS. 114765 13-01
- EFFECT OF MORPHINE ON PROTEIN SYNTHESIS IN SYNAPTOSOMES AND  
MITOCHONDRIA OF MOUSE BRAIN. 123273 13-03
- BEHAVIOURAL EFFECT OF AMANTADINE IN RATS AFTER INHIBITION OF  
MONOAMINE SYNTHESIS, STORAGE AND RECEPTOR INTERACTION. 123277 13-03
- SYNTHETASE**  
ENHANCEMENT OF FATTY ACID OXIDATION AND MEDIUM CHAIN FATTY  
ACYL COENZYME A SYNTHETASE BY ADENINE NUCLEOTIDES IN RAT  
HEART HOMOGENATES. 089434 13-03

## Psychopharmacology Abstracts

- SYNTHETIC**  
THE DEVELOPMENT OF SYNTHETIC TECHNIQUES TO INTRODUCE A  
FUNCTIONALIZED CARBON SUBSTITUENT REGIOSELECTIVELY INTO THE  
BENZENE RING OF AN INDOLE NUCLEUS. 112783 13-01
- SYNTHESINOPIE**  
PRELIMINARY EVIDENCE THAT SYNTHESINOPIE PRODUCES A SELECTIVE  
DEPLETION OF CENTRAL STORES OF SYMPATHOMIMETIC AMINES. 106422 13-03
- SYSTEMATIC**  
A SYSTEMATIC CLINICAL STUDY WITH NICOTINIC ACID, THIORIDAZINE,  
FLUOXAMETERONE AND THEIR COMBINATIONS IN HOSPITALIZED  
GERIATRIC PATIENTS. THERAPEUTIC RESULTS AND CHANGES IN  
PSYCHOMETRIC TEST PERFORMANCE. 098507 13-11
- TREATMENT OF PHOBIC ANXIETY AND PSYCHOGENIC IMPOTENCE BY  
SYSTEMATIC DESENSITIZATION EMPLOYING METHOHEXITONE  
INDUCED RELAXATION. 099320 13-10
- BEHAVIORAL AND EEG PATTERNS IN THE CAT COINCIDENT WITH  
SYSTEMATIC AND INTRACRANIAL STIMULATION WITH D-  
AMPHETAMINE SULFATE DURING A VISUAL DISCRIMINATION TASK.  
(PH.D.DISSERTATION). 102635 13-03
- SYSTEMIC**  
PROBLEMS RAISED IN THE TREATMENT OF NEUROLOGICAL AND  
NEUROPSYCHIATRIC MANIFESTATIONS IN SYSTEMIC LUPUS-  
ERYTHEMATOSUS. 089134 13-15
- SYSTEMS**  
THE ACTION OF SEDATIVES ON BRAIN STEM OCULOMOTOR SYSTEMS IN  
MAN. 082861 13-13
- STRUCTURE ACTIVITY RELATIONSHIPS OF NORMEPERIDINE CONGENERS  
ON CHOLINESTERASE SYSTEMS IN VITRO AND ANALGESIA IN VIVO. 086822 13-03
- THE ROLE OF CENTRAL M-CHOLINERGIC SYSTEMS IN THE  
DEVELOPMENT OF FOOD MOTOR CONDITIONED REFLEXES. 107719 13-03
- A SEARCH FOR UNCORRELATED THIN LAYER CHROMATOGRAPHIC  
SYSTEMS FOR THE IDENTIFICATION OF BASIC DRUGS. 115897 13-06
- SYSTOLIC**  
EFFECTS OF CHLORPROMAZINE AND PROPRANOLOL ON LEFT  
VENTRICULAR SYSTOLIC PRESSURE, ECG, AND POTASSIUM ION EFFLUX  
IN THE ISOLATED PERFUSED RAT HEART. 103311 13-03
- T-MAZE**  
CNS EFFECT OF NICOTINE AS THE DISCRIMINATIVE STIMULUS FOR THE  
RAT IN A T-MAZE. 108732 13-04
- T-WAVE**  
ELECTROCARDIOGRAPHIC T-WAVE CHANGES DURING LITHIUM  
CARBONATE TREATMENT. 100271 13-13
- TABLETS**  
COMPARISON OF THIORIDAZINE TABLETS TO CHLORPROMAZINE  
SPANSULES IN THE MAINTENANCE CARE OF CHRONIC  
SCHIZOPHRENICS. 097354 13-07
- TARDIVE**  
PERSISTENT TARDIVE DYSKINESIA. 099993 13-15
- OBSERVATIONS ON THE EFFECT OF LEVODOPA ON TARDIVE LINGUAL-  
FACIAL-BUCCAL DYSKINESIA. 103204 13-15
- AMANTADINE HYDROCHLORIDE TREATMENT OF TARDIVE DYSKINESIA. 112538 13-07
- TARTRATE**  
LYSERGIC ACID DIETHYLAMIDE TARTRATE (LSD-25) DOSAGE LEVELS,  
GROUP DIFFERENCES, AND SOCIAL INTERACTION. 098888 13-12
- TASK**  
EFFECTS OF HALOTHANE ANESTHESIA ON THE RETENTION OF A PASSIVE  
AVOIDANCE TASK IN RATS. 078448 13-04
- BEHAVIORAL AND EEG PATTERNS IN THE CAT COINCIDENT WITH  
SYSTEMATIC AND INTRACRANIAL STIMULATION WITH D-  
AMPHETAMINE SULFATE DURING A VISUAL DISCRIMINATION TASK.  
(PH.D.DISSERTATION). 102635 13-03
- EFFECTS OF NICOTINE, NICOTINE MONOMETHYLOXIDE, LOBELINE,  
CHLORDIAZEPOXIDE, MEPROBAMATE AND CAFFEINE ON A  
DISCRIMINATION TASK IN LABORATORY RATS. 104433 13-04
- EFFECT OF 5-iodouracil AND 2,6 DIAMINOPURINE ON PASSIVE  
AVOIDANCE TASK. 104810 13-04

- THE EFFECTS OF NITROUS OXIDE ON THE AUDITORY EVOKED RESPONSE IN A REACTION TIME TASK. 105011 13-14
- THE CYCLOHEXIMIDE INDUCED AMNESIA GRADIENT OF A PASSIVE AVOIDANCE TASK. 105075 13-04
- EVIDENCE FOR STATE DEPENDENT LEARNING WITH MESCALINE IN A PASSIVE AVOIDANCE TASK. 105079 13-04
- THE EFFECTS OF CHLORPROMAZINE ON FINE PSYCHOMOTOR PERFORMANCE WITH A SIMULTANEOUS SECONDARY TASK IN SCHIZOPHRENICS. 105926 13-08
- TASKS**
- TRIAL MANAGEMENT IN PSYCHOPHARMACOLOGY: THE ROLES AND TASKS OF AN INDUSTRY PHYSICIAN. 078957 13-17
- TASTE**
- RAPID LEARNING OF PASSIVE AVOIDANCE BY WEANLING RATS: CONDITIONED TASTE AVERSION. 101354 13-04
- TASYLATE**
- TROXONIUM TASYLATE IN DRUG-INDUCED PARKINSONISM: A CONTROLLED COMPARATIVE STUDY. 100260 13-07
- TEBONIN**
- ON THE EFFECT OF TEBONIN IN POST-TRAUMATIC BRAIN INJURIES. 098562 13-11
- TECHNIQUE**
- PHENOBARBITAL TECHNIQUE FOR TREATMENT OF BARBITURATE DEPENDENCE. 071568 13-16
- TREATMENT OF DEPRESSION BY INFUSION TECHNIQUE. 086519 13-09
- EVALUATION OF A RAPID TECHNIQUE FOR DETECTING MINOR TRANQUILIZERS. 100214 13-06
- A TECHNIQUE IN THE EVALUATION OF PSYCHOTROPIC MEDICATION BASED ON A PATIENT DEMAND SCHEDULE: COMPARISON OF THE EFFICACY OF OXYPERTINE, DIAZEPAM AND PLACEBO IN ANXIETY. 100538 13-10
- TECHNIQUES**
- A COMPARISON OF TECHNIQUES TO INDUCE ALCOHOL DEPENDENCE AND TOLERANCE IN THE MOUSE (UNPUBLISHED PAPER). 087462 13-06
- PSYCHOPHARMACOLOGY IN CHILDREN: PROBLEM AREAS, METHODOLOGICAL CONSIDERATIONS, AND ASSESSMENT TECHNIQUES. 095541 13-11
- TECHNIQUES USED TO ASSESS THE EFFICACY OF PSYCHOTROPIC DRUGS: A CRITICAL REVIEW. 102937 13-16
- THE DEVELOPMENT OF SYNTHETIC TECHNIQUES TO INTRODUCE A FUNCTIONALIZED CARBON SUBSTITUENT REGIOSELECTIVELY INTO THE BENZENE RING OF AN INDOLE NUCLEUS. 112783 13-01
- TEGRETOL**
- USE OF TEGRETOL IN THE TREATMENT OF EPILEPTIC PATIENTS WITH MENTAL DISORDERS. 110120 13-11
- OBSERVATIONS ON THE EFFECT OF TEGRETOL IN SALAAM SEIZURES IN CHILDREN. 123890 13-07
- TELENCEPHALIC**
- LESIONS IN THE MEDIAL FOREBRAIN BUNDLE: RELATIONSHIP BETWEEN PAIN SENSITIVITY AND TELENCEPHALIC CONTENT OF SEROTONIN. 086171 13-03
- TEMPERATURE**
- THE EFFECTS OF CENTRALLY ADMINISTERED CHLORPROMAZINE ON TEMPERATURE REGULATION IN THE HAMSTER. 089098 13-03
- INTERACTION OF SEROTONIN ANTAGONISTS WITH HARMALINE INDUCED CHANGES IN OPERANT BEHAVIOR AND BODY TEMPERATURE IN THE RAT. 098160 13-03
- COURSE OF BODY TEMPERATURE IN NEUROLEPTIC INJECTION TREATMENTS: STATISTICAL EVALUATION OF RETROSPECTIVE DATA. 098272 13-15
- THE EFFECT OF YOHIMBINE ON BRAIN SEROTONIN METABOLISM, MOTOR BEHAVIOR AND BODY TEMPERATURE OF THE RAT. 099648 13-03
- DUAL EFFECT OF DEXAMPHETAMINE ON BODY TEMPERATURE IN THE RAT. 099651 13-05
- THE EFFECT OF SOME HALLUCINOGENIC AND OTHER DRUGS ON THE TEMPERATURE OF RESERPINIZED MICE. 104573 13-04
- THE INFLUENCE OF SUBCHRONIC TETRAHYDROCANNABINOL AND CANNABIS TREATMENT ON FOOD AND WATER INTAKE, BODY WEIGHT AND BODY TEMPERATURE OF RATS. 123267 13-03
- TEMPORAL**
- THE INFLUENCE OF SELECTIVE TEMPORAL LOBE DAMAGE ON BEHAVIOR AND THE RESPONSE TO LYSERGIC ACID DIETHYLAMIDE. 073494 13-05
- TEMPORAL EFFECTS OF RNASE AND DNASE IN DISRUPTING ACQUIRED ESCAPE BEHAVIOR IN REGENERATED PLANARIA. 079423 13-04
- MARIJUANA AND THE TEMPORAL SPAN OF AWARENESS. 095925 13-14
- TEMPORARY**
- EFFECT OF TEMPORARY SEPTAL DYSFUNCTION ON CONDITIONING AND PERFORMANCE OF FEAR RESPONSES IN RATS. 097448 13-03
- TENSIOLYTIC**
- THE ANTINOCICEPTIVE ACTION OF A NOVEL ANXIOLYTIC AND TENSIOLYTIC DRUG (BENZOTAMINE) IN TWO DIFFERENT WRITHING SYNDROMES. 118200 13-02
- TENSION**
- QUANTITATIVE POLYGRAPHIC EVALUATION OF EMOTIONAL TENSION IN THE STUDY OF A NEW BENZODIAZEPINE. 100537 13-07
- PHARMACOTHERAPY IN THE PREMENSTRUAL TENSION. 105908 13-14
- TERATOGENIC**
- LSD, TERATOGENIC ACTION IN CHICK BLASTODERMS. 089286 13-05
- ARE ANTICONVULSANTS TERATOGENIC 099761 13-15
- SEVERE LITHIUM INTOXICATION: MANAGEMENT WITHOUT DIALYSIS AND REPORT OF A POSSIBLE TERATOGENIC EFFECT OF LITHIUM. 101174 13-15
- TERATOGENIC EFFECTS OF ANTICONVULSANTS. 105087 13-15
- TERATOGENICITY**
- LITHIUM TERATOGENICITY. 086927 13-15
- TERATOGENICITY STUDIES OF METHADONE HCl IN RATS AND RABBITS. 099696 13-05
- TERATOLOGY**
- TOXICOLOGY AND TERATOLOGY OF MARIJUANA AND CONSTITUENTS (UNPUBLISHED PAPER). 093551 13-05
- TERMINALS**
- MAINTENANCE OF NORADRENALINE IN NEURONAL CELL BODIES AND TERMINALS: EFFECT OF FREQUENCY OF STIMULATION. 105410 13-03
- TERTIARY**
- EFFECTS OF TERTIARY VS QUATERNARY SCOPOLAMINE ON WATER AND AIR DRINKING IN RATS. 123639 13-04
- TEST**
- STIMULANT ACTION OF D-AMPHETAMINE IN RELATION TO TEST COMPARTMENT DIMENSIONS AND BEHAVIORAL MEASURE. 086901 13-04
- AN IMPROVED FIELD TEST FOR HALLUCINOGENS. 087142 13-16
- A SYSTEMATIC CLINICAL STUDY WITH NICOTINIC ACID, THIORIDAZINE, FLUOXYMESTERONE AND THEIR COMBINATIONS IN HOSPITALIZED GERIATRIC PATIENTS: THERAPEUTIC RESULTS AND CHANGES IN PSYCHOMETRIC TEST PERFORMANCE. 098507 13-11
- THE EFFECT OF OCTOCLOTHEPINE ON THE EPINEPHRINE AGGREGATION TEST. 106097 13-15
- THE SAFETY TEST OF 10-CHLORO-11B-(2-CHLOROPHENYL)-2,3,5,6,7,11B-HEXAHYDROBENZOL(6,7) 1,4 DIAZEPINOXAZOLONE (CS-370) - II. EFFECT OF CS-370 UPON THE DEVELOPMENT OF PRE-NATAL AND POST-NATAL OFFSPRINGS OF EXPERIMENTAL ANIMALS. 116154 13-03
- THE SAFETY TEST OF 10-CHLORO-11B-(2-CHLOROPHENYL)-2,3,5,6,7,11B-HEXAHYDROBENZODIAZEPINOXAZOLONE (CS-370). 116383 13-15
- THE EFFECTS OF MEFLOQUATE ON RISK-TAKING BEHAVIOR: A TEST OF WITTENBORNS HYPOTHESIS. (PH.D. DISSERTATION). 118619 13-14
- STUDIES OF THE SPONTANEOUS MOVEMENT OF ANIMALS BY THE HOLE CROSS TEST; EFFECT OF 2-DIMETHYLAMINOETHANOL AND ITS ACYL ESTERS ON THE CENTRAL NERVOUS SYSTEM. 120930 13-03
- THE APOMORPHINE ANTAGONISM TEST IN DOGS: EXPERIMENTAL EVIDENCE AND CRITICAL CONSIDERATIONS ON SPECIFIC METHODOLOGICAL CRITERIA. 121221 13-06

# Subject Index

- METHYLPHENIDATE ANTAGONISM IN MICE AS A RAPID SCREENING TEST FOR NEUROLEPTIC DRUGS. 123275 13-04
- TESTED**  
MORPHINE INDUCED HYPERALGESIA IN RATS TESTED ON THE HOT PLATE. 086105 13-04
- TESTICULAR**  
LSD LINK WITH TESTICULAR CANCER? 101653 13-15
- TESTING**  
THE CLINICAL TESTING OF GERIATRIKA: A CLINICAL STUDY. 089150 13-11  
CLINICAL POSSIBILITIES OF THE EVALUATION OF PHARMACOTHERAPY, INVESTIGATED BY TESTING THE EFFECTIVENESS OF THE NEUROLEPTIC DRUG PIMOZIDE. 104226 13-07  
A SIMPLE AND RELIABLE CONFLICT PROCEDURE FOR TESTING ANXIETY AGENTS. 124108 13-04
- TESTOSTERONE**  
NEONATAL ADMINISTRATION OF ANDROSTENEDIONE, TESTOSTERONE OR TESTOSTERONE PROPIONATE: EFFECTS ON OVULATION, SEXUAL RECEPTIVITY AND AGGRESSIVE BEHAVIOR IN FEMALE MICE. 088581 13-04  
EFFECTS OF INFUSED TESTOSTERONE ON MENTAL PERFORMANCES AND SERUM LH. 088596 13-14  
HOMOSEXUAL ACTIVITY IN MALE RATS AFTER P-CHLOROPHENYLALANINE: EFFECTS OF HYPOPHYSECTOMY AND TESTOSTERONE. 102096 13-04  
SEXUAL BEHAVIOUR AND TESTOSTERONE IN THE FEMALE RAT. 123276 13-04
- TESTS**  
SPOT TESTS FOR RAPID DIAGNOSIS OF POISONING. 089180 13-15  
EFFECTS OF SINGLE 1/2 LD50 DOSES OF GB UPON DELAYED RESPONSE AND CONDITIONED AVOIDANCE RESPONSE TESTS. 094956 13-03  
FURTHER EXPERIENCE WITH FORREST TESTS IN OBSTETRICS. 106091 13-16
- TETRABENAZINE**  
EFFECT OF TETRABENAZINE AND ALPHA-METHYL-M-TYROSINE ON EXPLORATORY ACTIVITY AND BRAIN CATECHOLAMINES IN RATS. 077425 13-04  
PERSISTENT PHENOTHIAZINE DYSKINESIA TREATED WITH TETRABENAZINE. 101988 13-11  
THE EFFECTS OF VARIOUS ANTIDEPRESSANT DRUGS UPON THE TETRABENAZINE SUPPRESSED CONDITIONED AVOIDANCE RESPONSE IN RATS. 105013 13-04  
LORDOSIS BEHAVIOR IN MALE RATS TREATED WITH ESTROGEN IN COMBINATION WITH TETRABENAZINE AND NIALAMIDE. 125165 13-04
- TETRAHYDROCANNABINOL**  
THE TETRAHYDROCANNABINOL CONTENT OF CANNABIS LEAF. 087117 13-01  
6-BETA-HYDROXY-DELTA(1) TETRAHYDROCANNABINOL SYNTHESIS AND BIOLOGICAL ACTIVITY. 103707 13-01  
DOSE RESPONSE ANALYSIS OF THE EFFECTS OF TETRAHYDROCANNABINOL IN MAN. 104362 13-12  
THE INFLUENCE OF SUBCHRONIC TETRAHYDROCANNABINOL AND CANNABIS TREATMENT ON FOOD AND WATER INTAKE, BODY WEIGHT AND BODY TEMPERATURE OF RATS. 123267 13-03  
HEXOBARBITAL SLEEPING TIME AND AMPHETAMINE MOTILITY AFTER SUBCHRONIC TETRAHYDROCANNABINOL TREATMENT. 123284 13-03
- TETRAHYDROCANNABINOLS**  
EFFECTS OF TWO TETRAHYDROCANNABINOLS AND OF PENTOBARBITAL ON CORTICO-CORTICAL EVOKED RESPONSES IN THE SQUIRREL MONKEY. 082720 13-03  
REVIEW OF THE EFFECTS IN MAN OF MARIJUANA AND TETRAHYDROCANNABINOLS ON SUBJECTIVE STATE AND PHYSIOLOGIC FUNCTIONING (UNPUBLISHED PAPER). 092101 13-13  
METABOLISM AND DISPOSITION OF TETRAHYDROCANNABINOLS IN NAIVE SUBJECTS AND MARIJUANA USERS (UNPUBLISHED PAPER). 092894 13-13  
THE EFFECTS OF TWO TETRAHYDROCANNABINOLS, (DELTA9-THC AND DELTA8-THC) ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS. 106393 13-04

# Psychopharmacology Abstracts

- TETRAHYDROISOQUINOLINE**  
TETRAHYDROISOQUINOLINE ALKALOIDS IN THE ADRENAL MEDULLA AFTER PERFUSION WITH BLOOD CONCENTRATIONS OF (14C)ACETALDEHYDE. 108281 13-03
- TETRAHYMENA**  
CHLORPROMAZINE EFFECTS ON MACROMOLECULAR SYNTHESIS IN SYNCHRONIZED TETRAHYMENA. 105014 13-03
- TETRAZOLIUM**  
AMPHETAMINE TETRAZOLIUM REDUCTASE ACTIVITY IN BRAIN. 125411 13-03
- THALAMIC**  
THE INFLUENCE OF BARBITURATES ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCI. 104375 13-03  
INFLUENCE OF CHLORDIAZEPOXIDE ON PAROXYSMAL EEG ACTIVITY INDUCED BY HIPPOCAMPAL AND/OR THALAMIC COBALT FOCI. 104376 13-03
- THALAMOCORTICAL**  
INHIBITION OF PENTETRAZOL INDUCED HYPERSYNCHRONOUS ACTIVITY IN THE THALAMOCORTICAL SYSTEM BY ETHOSUXIMIDE. 098297 13-04
- THALAMOTOMY**  
THE THERAPEUTIC POSSIBILITIES OF L-DOPA AND AMANTADINE IN PARKINSONIAN PATIENTS WHO HAVE UNDERGONE BILATERAL THALAMOTOMY. 111608 13-14
- THALIDOMIDE**  
THE MECHANISM OF THE PUSH AND PULL PRINCIPLE. VIII: ENDOCRINE EFFECTS OF THALIDOMIDE AND ITS ANALOGUES. 106146 13-03
- THANATOLOGIC**  
EFFECT OF THANATOLOGIC CHANGES ON THE IMIPRAMINE CONTENT OF INTERNAL ORGANS. 126160 13-03
- THC**  
IMPAIRMENT OF RECENT MEMORY BY MARIJUANA AND THC IN RHESUS MONKEYS. 099697 13-04
- THEBAINE**  
THE EFFECTS OF MORPHINE, MORPHINONE AND THEBAINE ON THE EEG AND BEHAVIOR OF RABBITS AND CATS. 100217 13-05
- THEOPHYLLINE**  
THE EFFECT OF CAFFEINE AND THEOPHYLLINE ON THE DISPOSITION OF BRAIN SEROTONIN IN THE RAT. 107161 13-03
- THEORIZING**  
CLINICAL DANGERS OF PSYCHOLOGICAL THEORIZING: THE GILLES-DE-LA-TOURETTE SYNDROME. 104558 13-17
- THEORY**  
ACCIDENTAL CONDITIONING WITH CHRONIC METHAMPHETAMINE INTOXICATION: IMPLICATIONS FOR A THEORY OF DRUG HABITUATION. 110187 13-04
- THERAPEUTIC**  
INFLUENCE OF SEX OF HOSPITALIZED SCHIZOPHRENICS ON THERAPEUTIC DOSAGE LEVELS OF NEUROLEPTICS. 079314 13-17  
THERAPEUTIC POSSIBILITIES OF PSYCHOPHARMACOLOGICAL DRUG TRIALS. 087669 13-16  
THE THERAPEUTIC PROCESS: THE USE OF DRUGS. 094703 13-17  
LITHIUM AS A THERAPEUTIC AGENT IN THE TREATMENT OF MANIC-DEPRESSIVE ILLNESS. 097549 13-09  
THE DYSKINESIAS: A NEW THERAPEUTIC APPROACH. 098292 13-08  
A SYSTEMATIC CLINICAL STUDY WITH NICOTINIC ACID, THIORIDAZINE, FLUOXYMESTERONE AND THEIR COMBINATIONS IN HOSPITALIZED GERIATRIC PATIENTS: THERAPEUTIC RESULTS AND CHANGES IN PSYCHOMETRIC TEST PERFORMANCE. 098507 13-11  
DIAZEPAM: A CLINICAL TRIAL OF THERAPEUTIC EQUIVALENCE. 101564 13-10  
ON THE EFFECT OF MELATONIN UPON HUMAN BRAIN: ITS POSSIBLE THERAPEUTIC IMPLICATIONS. 101657 13-14  
A COMPARATIVE STUDY OF THE THERAPEUTIC EFFECTS OF SOME 4-CHLORINATED AMPHETAMINE DERIVATIVES IN DEPRESSIVE PATIENTS. 103955 13-13  
RELATIONSHIP BETWEEN PLASMA LEVEL AND THERAPEUTIC EFFECT OF NORTRIPTYLINE. 105536 13-13

- THERAPEUTIC EFFECT OF FLUPHENAZINE IN VARIOUS DOSES AND FORMS. 105826 13-08
- COMPARISON OF THE THERAPEUTIC RESULTS OF CLOTHIAPIN AND PERPHENAZINE IN SCHIZOPHRENIA. 105829 13-08
- MULTIHOSPITAL CONTROLLED COMPARISON OF THE THERAPEUTIC EFFECTS OF FOUR ANTIDEPRESSANTS. 105833 13-09
- CONTROLLED COMPARISON OF THE THERAPEUTIC EFFECT OF TRIMEPRIMINE AND AMITRIPTYLINE. 105835 13-11
- THERAPEUTIC EXPERIENCE WITH CHLORIMIPRAMINE INJECTIONS. 105836 13-09
- LACTATE INDUCED ANXIETY, THERAPEUTIC APPLICATION. 105890 13-11
- RELATIONSHIP BETWEEN THE THERAPEUTIC EFFECT AND SIDE-EFFECTS IN THE TREATMENT WITH ANTIDEPRESSIVE DRUGS. 105925 13-09
- THERAPEUTIC GUIDELINES AND SIDE-EFFECTS ENCOUNTERED DURING L-DOPA THERAPY IN 100 CASES OF PARKINSONISM. 106483 13-15
- LEVODOPA, A REVIEW OF ITS PHARMACOLOGICAL PROPERTIES AND THERAPEUTIC USES WITH PARTICULAR REFERENCES TO PARKINSONISM. 110845 13-11
- THE THERAPEUTIC POSSIBILITIES OF L-DOPA AND AMANTADINE IN PARKINSONIAN PATIENTS WHO HAVE UNDERGONE BILATERAL THALAMOTOMY. 111608 13-14
- DETERMINATION OF THERAPEUTIC BLOOD LEVELS OF METHAMPHETAMINE AND PENTOBARBITAL BY GC. 111999 13-16
- EVALUATION OF THE THERAPEUTIC SIGNIFICANCE OF THE PREPARATION IB-503 ON THE BASIS OF PERSONAL CLINICAL EXPERIENCE OVER A PERIOD OF FOUR YEARS. 122947 13-09
- THERAPEUTICAL**
- CORRELATION BETWEEN THE EXPERIMENTAL DATA FROM ANIMAL STUDIES AND THERAPEUTICAL EFFECTS OF ANTIDEPRESSANT DRUGS. 104435 13-09
- THERAPIES**
- COMPARISON OF MAJOR DRUG THERAPIES FOR ALLEVIATION OF ANXIETY AND DEPRESSION. 103912 13-14
- THERAPISTS**
- PHENOTHIAZINES AND THE THERAPISTS FEAR OF IDENTIFICATION. 113928 13-17
- THERAPY**
- PROPHYLACTIC LITHIUM THERAPY, SOME CLINICAL APPLICATIONS. 077867 13-09
- THE USE OF MEGAVITAMIN THERAPY IN REGULATING SEVERE BEHAVIOR DISORDERS, DRUG ABUSES AND FRANK PSYCHOSIS. 082735 13-17
- MEDAZEPAM (NOBRIUM) IN THE THERAPY OF PSYCHONEUROSES. 087135 13-10
- HEPATOTOXICITY OCCURRING WITH THIORIDAZINE THERAPY. 087268 13-15
- PARTICLE SIZE INFLUENCES IN PARENTERAL THERAPY: PHENOBARBITAL STUDY. 088290 13-03
- RELATION OF HYPERMAGNEAEMIA TO ACTIVITY AND NEUROLEPTIC DRUG THERAPY IN SCHIZOPHRENIC STATES. 088729 13-13
- CARDIAC COMPLICATIONS OF TRICYCLIC ANTIDEPRESSANT THERAPY. 088986 13-15
- A PROPOSAL FOR A CONSISTENT NIGHT THERAPY FOR THE MENTAL PATIENT, CONJOINTLY, A CAUSISTIC CONTRIBUTION TO A DAY NIGHT THERAPY FOR DEPRESSIONS WITH PSYCHOTROPIC DRUGS. 089067 13-09
- EEG CHANGES WITH LITHIUM THERAPY. 089070 13-09
- LONG-TERM EVOLUTION OF THE SIDE-EFFECT LENS OPACITIES INDUCED BY CHLORPROMAZINE PROLONGED THERAPY. 089189 13-15
- HORMONE THERAPY DURING THE CLIMACTERIUM. 089216 13-11
- TOXIC PSYCHOSIS INDUCED BY HIGH-DOSE CHLORPROMAZINE THERAPY. 089350 13-15
- MEPROBAMATE THERAPY FOR THE MYOFASCIAL PAIN DYSFUNCTION (MPD) SYNDROME, A DOUBLE-BLIND EVALUATION. 089881 13-17
- DIAZEPAM MODIFIED ELECTROCONVULSIVE THERAPY. 090499 13-07
- DIFFICULTIES OF DISULFIRAM THERAPY WITH ALCOHOLICS. 090725 13-11
- BEHAVIORAL TOLERANCE OF SQUIRREL MONKEYS TO HYPOXIA: A MODEL FOR EVALUATING DRUG THERAPY. 091102 13-06
- DRUG THERAPY IN ALCOHOLISM. 093791 13-11
- EEG AND BEHAVIORAL EFFECTS OF DRUG THERAPY IN CHILDREN. 095924 13-14
- SIMULTANEOUS CLINICAL USE OF TWO NEUROLEPTICS (DROPERIDOL AND FLUPENTHIXOL) IN PSYCHIATRIC THERAPY. 096309 13-08
- EXTRAPYRAMIDAL DISORDERS AFTER PROLONGED PHENOTHIAZINE THERAPY. 099120 13-15
- PSYCHOSEXUAL EFFECTS OF HORMONE THERAPY. 099658 13-13
- MANIC RESPONSE TO LEVODOPA THERAPY, REPORT OF A CASE. 099922 13-15
- RENAL FUNCTIONAL DAMAGE DURING THE COURSE OF LITHIUM THERAPY, A CASE REPORT WITH RENAL BIOPSY FINDINGS. 100206 13-15
- LITHIUM FOR MANIC-DEPRESSIVE DISORDERS, CHALLENGE TO ELECTROSHOCK THERAPY? 100236 13-09
- A DOUBLE-BLIND CONTROLLED TRIAL OF THIOTHIXENE AND PERPHENAZINE IN CHRONIC SCHIZOPHRENICS SHOWN TO REQUIRE MAINTENANCE THERAPY. 100807 13-08
- PRINCIPLES OF DRUG THERAPY IN CHILD PSYCHIATRY WITH SPECIAL REFERENCE TO STIMULANT DRUGS. 101214 13-17
- TRIAL OF MAINTENANCE THERAPY IN SCHIZOPHRENIA. 101527 13-08
- COMBINED ANTIDEPRESSANT THERAPY. 101622 13-09
- PHYSOSTIGMINE THERAPY IN ACUTE TRICYCLIC ANTIDEPRESSANT POISONING. 101864 13-13
- ELECTROENCEPHALOGRAPHIC CHANGES DURING PYRITHIOXINE (ENCEPHABOL) THERAPY. 101936 13-13
- EXPERIMENTAL AND CLINICAL EXPERIENCE WITH ENCEPHABOL THERAPY IN GERONTOPSYCHIATRY. 101939 13-14
- SOME RISKS OF LITHIUM THERAPY. 102039 13-15
- ELECTROENCEPHALOGRAPHIC CHANGES DURING PYRITHIOXINE (ENCEPHABOL) THERAPY. 102604 13-13
- EXPERIENCE WITH COMPLEX THERAPY FOR PATIENTS WITH THE PERIOD FORM OF SCHIZOPHRENIA. 102653 13-08
- ON THERAPY FOR DIENCEPHALGALLERGIC SYNDROMES. 102711 13-17
- EVALUATION OF CLINICAL EFFICACY OF PIMOZIDE AS MAINTENANCE THERAPY IN CHRONIC SCHIZOPHRENIC PATIENTS. 103326 13-07
- OBSERVATIONS ON CHANGES IN THE CLINICAL PHENOMENOLOGY OF MANIC PHASES UNDER EXTENDED LITHIUM THERAPY. 103797 13-14
- RESERPINE THERAPY OF PHENOTHIAZINE INDUCED DYSKINESIA. 103917 13-11
- ON THE THERAPY AND PROBLEMATIC NATURE OF PARKINSON SYNDROME. 105491 13-15
- THE EFFECTS OF ANTIDEPRESSANT THERAPY, A FOLLOW-UP STUDY. 105913 13-09
- CLINICAL EXPERIENCE WITH PROPHYLACTIC LITHIUM THERAPY OF MANIC-DEPRESSIVE PSYCHOSES. 105928 13-09
- THERAPEUTIC GUIDELINES AND SIDE-EFFECTS ENCOUNTERED DURING L-DOPA THERAPY IN 100 CASES OF PARKINSONISM. 106483 13-15
- PSYCHOMOTOR PERFORMANCES OF PATIENTS UNDERGOING L-DOPA THERAPY. 107465 13-13
- REDUCTION OF CATECHOL-O-METHYLTRANSFERASE ACTIVITY BY CHRONIC L-DOPA THERAPY. 107995 13-15
- SERUM FOLIC ACID AND PHENYTOIN LEVELS IN PERMANENTLY HOSPITALIZED EPILEPTIC PATIENTS RECEIVING ANTICONVULSANT DRUG THERAPY. 108727 13-15
- MEGAVITAMIN-B-3 THERAPY FOR SCHIZOPHRENIA. 108837 13-08
- ATROPINE THERAPY IN OBSESSIVE STATES. 108852 13-10
- MEGAVITAMIN THERAPY - A READERS VIEW. 109399 13-08

## Subject Index

- MENTAL COMPLICATIONS OF L-DOPA THERAPY IN PARKINSONS PATIENTS.** 110477 13-15
- HYPERTENSIVE CRISES DURING MAO THERAPY.** 111128 13-15
- THE SIGNIFICANCE OF WORK THERAPY IN PARANOID SCHIZOPHRENIA.** 111979 13-08
- FURTHER EXPERIENCE IN THE TREATMENT OF DEPRESSIVE STATES WITH A COMBINATION OF PSYCHOTONE AND ELECTROSHOCK THERAPY.** 112443 13-09
- COPPER SALTS IN TREATMENT OF SCHIZOPHRENIA AND THEIR EFFECT ON INSULIN THERAPY.** 113429 13-08
- DRUGS IN BEHAVIOR THERAPY.** 115611 13-11
- WITHDRAWAL SYMPTOMS FOLLOWING CESSATION OF PROLONGED NEUROLEPTIC THERAPY.** 118127 13-08
- PRESENT THERAPY OF DEPRESSIVE STATES.** 118365 13-09
- AMENTAL AND APHASIC DISTURBANCES APPEARING DURING PSYCHOPHARMACOLOGIC THERAPY.** 125070 13-15
- ANTIANDROGEN THERAPY WITH CYPROTERONE ACETATE IN CHILD AND ADOLESCENT PSYCHIATRY. AN OVERVIEW OF RESULTS ACHIEVED.** 125703 13-11
- TREATMENT OF HYPERBILIRUBINEMIA IN PREMATURE AND NEWBORN INFANTS WITH PHENOBARBITAL AND LIGHT THERAPY.** 125867 13-13
- ALTERNATE APPLICATION OF MELLERIL SANDOZ (THIORIDAZINE) AND ITS METABOLITE INOFAL IN PSYCHIATRIC THERAPY.** 126007 13-11
- ATTEMPTED THERAPY OF DEPRESSIVE PSYCHOSIS BY MEANS OF EXPERIMENTALLY INDUCED SKIN ALLERGIES.** 126102 13-09
- THERMOREGULATION**  
**THE INFLUENCE OF ADRENERGIC RECEPTOR BLOCKING AGENTS, AMPHETAMINE, AND 6-AMINONICOTINAMIDE ON THERMOREGULATION.** 119553 13-03
- THETA**  
**EFFECTS OF SCOPOLAMINE ON HIPPOCAMPAL THETA AND CORRELATED DISCRIMINATION PERFORMANCE.** 102390 13-04
- THIAZOL-4-YLMETHOXYAMINE**  
**EFFECT OF THIAZOL-4-YLMETHOXYAMINE, A NEW INHIBITOR OF HISTAMINE BIOSYNTHESIS ON BRAIN HISTAMINE, MONOAMINE LEVELS AND BEHAVIOR.** 101541 13-03
- THIN**  
**A NOVEL THIN LAYER CHROMATOGRAPHY SYSTEM FOR LYSERGIDE (LSD).** 087118 13-06
- A SEARCH FOR UNCORRELATED THIN LAYER CHROMATOGRAPHIC SYSTEMS FOR THE IDENTIFICATION OF BASIC DRUGS.** 115897 13-06
- THIOPENTONE**  
**PHARMACOLOGICAL INTERACTION OF LORAZEPAM WITH THIOPENTONE SODIUM AND SKELETAL NEUROMUSCULAR BLOCKING DRUGS.** 120410 13-03
- THIOPROPANATE**  
**THIOPROPANATE HYDROCHLORIDE IN PERSISTENT DYSKINESIA.** 101989 13-11
- THIOPROPANATE HYDROCHLORIDE IN PERSISTENT DYSKINESIA.** 108487 13-11
- THIOPROPERAZINE**  
**EFFECTS OF THIOPROPERAZINE ON THE URINARY EXCRETION AND CONCENTRATION IN THE CEREBROSPINAL FLUID OF 5-HYDROXYINDOLEACETIC ACID IN THE CHRONIC SCHIZOPHRENIC.** 074835 13-13
- A STUDY OF THE LEVOMEPRAMAZINE THIOPROPERAZINE ANTAGONISM ON THE EXTRAPYRAMIDAL SYSTEM.** 105674 13-08
- THIORIDAZINE**  
**THE TREATMENT OF PSYCHONEUROTIC STATES: A STUDY OF THIORIDAZINE IN AN OFFICE PRACTICE.** 078131 13-11
- COMBINED ADMINISTRATION OF THIORIDAZINE AND NICOTINIC ACID IN THE TREATMENT OF GERIATRIC PATIENTS.** 078942 13-11
- ANXIOUS DEPRESSED ADULTS AND PROBLEM CHILDREN TREATED WITH THIORIDAZINE IN PRIVATE PRACTICE.** 078943 13-10
- BEHAVIOR PROBLEMS IN NURSING HOME PATIENTS. TREATMENT WITH THIORIDAZINE.** 086894 13-14
- HEPATOTOXICITY OCCURRING WITH THIORIDAZINE THERAPY.** 087268 13-15

## Psychopharmacology Abstracts

- THIORIDAZINE INDUCED TOXIC PSYCHOSIS.** 089349 13-15
- OUR EXPERIENCE WITH THIORIDAZINE IN DEPRESSIVE STATES.** 092154 13-09
- HALOPERIDOL VERSUS THIORIDAZINE FOR HOSPITALIZED PSYCHOGERIATRIC PATIENTS: DOUBLE-BLIND STUDY.** 096021 13-11
- COMPARISON OF THIORIDAZINE TABLETS TO CHLORPROMAZINE SPANSULES IN THE MAINTENANCE CARE OF CHRONIC SCHIZOPHRENICS.** 097554 13-07
- CLINICAL EXPERIENCE WITH THIORIDAZINE (MELLERIL) IN THE TREATMENT OF ANXIETY AND DEPRESSION ASSOCIATED WITH EMOTIONAL DISORDERS IN GENERAL PRACTICE.** 097556 13-10
- A SYSTEMATIC CLINICAL STUDY WITH NICOTINIC ACID, THIORIDAZINE, FLUOXYMESTERONE AND THEIR COMBINATIONS IN HOSPITALIZED GERIATRIC PATIENTS. THERAPEUTIC RESULTS AND CHANGES IN PSYCHOMETRIC TEST PERFORMANCE.** 098507 13-11
- COMBINED ADMINISTRATION OF THIORIDAZINE, NICOTINIC ACID, AND FLUOXYMESTERONE IN THE TREATMENT OF GERIATRIC PATIENTS.** 098601 13-13
- THIORIDAZINE IN SCHIZOPHRENIA.** 099682 13-15
- COMPARISON OF THIORIDAZINE AND CHLORPROMAZINE IN DOCTORS CHOICE RESEARCH DESIGN.** 100438 13-16
- ALCOHOL, THIORIDAZINE AND CHLORPROMAZINE EFFECTS ON SKILLS RELATED TO DRIVING BEHAVIOUR.** 101615 13-14
- EFFECT OF LITHIUM CARBONATE, PLACEBO, AND THIORIDAZINE ON HYPERACTIVE CHILDREN.** 101684 13-11
- ON THE EFFECT OF PHARMACEUTICAL FORMULATION ON THIORIDAZINE ABSORPTION.** 120830 13-13
- CLINICAL STUDY OF THE EFFECT OF SUSTAINED RELEASE THIORIDAZINE IN LONG-TERM PSYCHIATRIC HOSPITAL PATIENTS.** 121457 13-07
- ALTERNATE APPLICATION OF MELLERIL SANDOZ (THIORIDAZINE) AND ITS METABOLITE INOFAL IN PSYCHIATRIC THERAPY.** 126007 13-11
- THIOETHIXENE**  
**THE CLINICAL EFFECTS OF INTRAMUSCULAR THIOETHIXENE AND TRIFLUOPERAZINE IN CHRONIC SCHIZOPHRENIA: A COMPARATIVE STUDY.** 077822 13-08
- OXYPERTINE AND THIOETHIXENE IN NEWLY ADMITTED SCHIZOPHRENIC PATIENTS.** 077932 13-08
- THIOETHIXENE (NAVANE) IN THE TREATMENT OF APATHIC SYNDROMES OF SCHIZOPHRENIC ORIGIN.** 089303 13-08
- A COMPARISON BETWEEN CHLORPROMAZINE AND THIOETHIXENE IN A VETERANS ADMINISTRATION HOSPITAL POPULATION.** 099887 13-06
- A DOUBLE-BLIND CONTROLLED TRIAL OF THIOETHIXENE AND PERPHENAZINE IN CHRONIC SCHIZOPHRENICS SHOWN TO REQUIRE MAINTENANCE THERAPY.** 100807 13-08
- SOMATOSENSORY EVOKED POTENTIAL CHANGES DURING THIOETHIXENE TREATMENT IN SCHIZOPHRENIC PATIENTS.** 105008 13-08
- THIOETHIXENE IN SCHIZOPHRENIC PSYCHOSES.** 105927 13-08
- EFFECT OF THIOETHIXENE ON DIGITAL COMPUTER SLEEP PRINTS OF SCHIZOPHRENIC PATIENTS.** 108569 13-14
- SOMATOSENSORY EVOKED POTENTIAL CHANGES DURING THIOETHIXENE TREATMENT IN SCHIZOPHRENIC PATIENTS.** 125568 13-08
- THIOXANTHINES**  
**EYE CHANGES IN CONNECTION WITH NEUROLEPTIC TREATMENT ESPECIALLY CONCERNING PHENOTHIAZINES AND THIOXANTHINES.** 115395 13-13
- THIRST**  
**AN EVALUATION OF THE CONTRIBUTION OF CHOLINERGIC MECHANISM TO THIRST.** 105346 13-04
- THORAZINE**  
**PROLOXIN ENANTHATE AND THORAZINE STELAZINE REGIMENS IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS. AN EXPERIMENTAL EVALUATION.** 096017 13-08

- THOUGHT**  
DRUGS OF DEPENDENCE THOUGHT NOT OF ABUSE: FENFLURAMINE AND IMIPRAMINE. 092160 13-12
- THOUGHTS**  
SOME CURRENT THOUGHTS ON LITHIUM CARBONATE IN MANIC-DEPRESSIVE ILLNESS BASED ON A DOUBLE-BLIND COMPARISON WITH CHLORPROMAZINE. 103627 13-09
- THRESHOLD**  
EFFECT OF ALDRIN ON THE CONDITION AVOIDANCE RESPONSE AND ELECTROSHOCK SEIZURE THRESHOLD OF OFFSPRING FROM ALDRIN TREATED MOTHER. 104791 13-04  
CHANGES IN A HEXOBARBITAL ANESTHESIA THRESHOLD IN RATS INDUCED BY REPEATED LONG-TERM TREATMENT WITH BARBITAL OR ETHANOL. 125248 13-03  
EFFECTS OF SOME NARCOTIC ANALGESICS AND RELATED COMPOUNDS UPON THE EXTENSOR MONOSYNAPTIC REFLEX INHIBITION FROM CUTANEOUS NERVE AND HIGH THRESHOLD MUSCLE AFFERENTS. 125324 13-03
- THRESHOLDS**  
THE EFFECTS OF CHRONIC ADMINISTRATION OF ETHANOL ON STARTLE THRESHOLDS IN RATS. 110205 13-04
- THROMBOCYTES**  
LITHIUM INDUCED INHIBITION OF THE 5-HYDROXYTRYPTAMIN UPTAKE IN VITRO BY RAT THROMBOCYTES. 123280 13-03
- THYMOLEPTIC**  
THYMOLEPTIC EFFECTS OF A NEW DIBENZODIAZEPINE DERIVATIVE. 087034 13-09  
THE EFFECT OF A THYMOLEPTIC DRUG UPON INHIBITION OF DRIVE IN ENDOGENOUS DEPRESSION: A QUANTITATIVE STATISTICAL INVESTIGATION. 087291 13-09  
THE INFLUENCE OF NEUROLEPTIC AND THYMOLEPTIC DRUGS ON STEREOTYPES INDUCED BY AMPHETAMINE AND APOMORPHINE. 102186 13-04
- THYMOLEPTICS**  
CHANGES IN THE BLADDER AND SPHINCTER TONUS OF THE BLADDER BY MEANS OF THYMOLEPTICS: CYSTOMANOMETRIC STUDIES IN MAN. 122292 13-15
- THYROID**  
EFFECT OF LITHIUM ON THYROID FUNCTION. 088725 13-13  
THYROID HORMONE BINDING PROTEINS AND ACUTE PSYCHIATRIC ILLNESS. 098733 13-14  
CLINICAL HYPOTHYROIDISM OCCURRING DURING LITHIUM TREATMENT: TWO CASE HISTORIES AND A REVIEW OF THYROID FUNCTION IN 19 PATIENTS. 101061 13-15
- THYROXINE**  
EFFECT OF DIAZEPAM (VALIUM) ON DIALYSABLE THYROXINE. 098302 13-13
- TIME**  
REACTION TIME IN PSYCHIATRIC PATIENTS: PILOT STUDY. 095621 13-15  
TOLERANCE TO OPIOID NARCOTICS: TIME COURSE AND REVERSIBILITY OF PHYSICAL DEPENDENCE IN MICE. 098926 13-03  
TIME DEPENDENT MEMORY DEFICITS PRODUCED BY PENTYLENETETRAZOL (METRAZOL) - THE EFFECT OF REINFORCEMENT MAGNITUDE. 102305 13-04  
MEASUREMENT OF PHARMACOLOGICAL DEPRESSION OF EXPLORATORY ACTIVITY IN MICE: A CONTRIBUTION TO THE PROBLEM OF TIME ECONOMY AND SENSITIVITY. 104704 13-06  
THE EFFECTS OF NITROUS OXIDE ON THE AUDITORY EVOKED RESPONSE IN A REACTION TIME TASK. 105011 13-14  
EFFECT OF DIPHENYLDANTOIN ON HEXOBARBITAL SLEEP TIME IN MICE AND RATS. 107944 13-03  
EFFECTS OF LSD ON TIME BASED SCHEDULES OF REINFORCEMENT. 110190 13-04  
EFFECT OF ANESTHETIC DRUGS ON TIME PRODUCTION AND ALPHA RHYTHM. 111839 13-14  
INFLUENCE OF ACTIVE BIOLOGICAL TREATMENT ON THE TIME OF DURATION OF REMISSION IN MANIC-DEPRESSIVE PSYCHOSIS. 122942 13-09  
HEXOBARBITAL SLEEPING TIME AND AMPHETAMINE MOTILITY AFTER SUBCHRONIC TETRAHYDROCANNABINOL TREATMENT. 123284 13-03
- TIMES**  
RELEARNING AT DIFFERENT TIMES AFTER TRAINING AS AFFECTED BY CENTRALLY AND PERIPHERALLY ACTING CHOLINERGIC DRUGS IN THE MOUSE. 097739 13-04
- TIMING**  
EFFECTS OF SMALL DOSES OF HALOPERIDOL ON TIMING BEHAVIOUR. 088640 13-04
- TISSUE**  
THE SUBCELLULAR DISTRIBUTION OF ENDOGENOUS AND EXOGENOUS SEROTONIN IN BRAIN TISSUE: COMPARISON OF SYNAPTOSOMES STORING SEROTONIN, MOREPINEPHRINE, AND GAMMA-AMINOBUTYRIC ACID. 077855 13-03  
POST-MORTEM CHANGES IN TISSUE LEVELS OF SODIUM SECOBARBITAL. 098634 13-03  
CHLORPROMAZINE INDUCED HISTAMINE RELEASE AND LIPOLYSIS IN CANINE ADIPOSE TISSUE IN SITU. 099447 13-03  
IMIPRAMINE TISSUE REPARTITION BREAKDOWN IN MAN AS RELATED TO SIX CASES OF FATAL INTOXICATION. 100406 13-15  
CARBAMAZEPINE PLASMA AND TISSUE LEVELS IN THE RAT. 108395 13-03  
FAILURE TO AFFECT TISSUE RESERPINE CONCENTRATIONS BY ALTERATION OF ADRENERGIC NERVE ACTIVITY. 108399 13-03  
FACTORS THAT AFFECT THE BINDING AND UPTAKE OF GABA BY BRAIN TISSUE. 111216 13-03  
EFFECT OF CHLORPROMAZINE ON RAT TISSUE UPTAKE OF 14C-3-O-METHYL-D-GLUCOSE. 120469 13-03
- TISSUES**  
SPECIFICITY OF ACTION OF 6-HYDROXYDOPAMINE IN PERIPHERAL CAT TISSUES: DEPLETION OF NORADRENALINE WITHOUT DEPLETION OF 5-HYDROXYTRYPTAMINE. 088486 13-03  
ACTION OF FENFLURAMINE ON MONOAMINE STORES OF RAT TISSUES. 089048 13-03  
TRANSYNAPTIC INDUCTION OF DOPAMINE-BETA-HYDROXYLASE IN ADRENERGIC TISSUES OF THE RAT (UNPUBLISHED PAPER). 092859 13-03  
EFFECTS OF INTRAPERITONEAL INJECTIONS OF LITHIUM CHLORIDE ON THE ENTRY OF RADIOACTIVE CARBON ATOMS OF GLUCOSE AND AMINO ACIDS INTO MOUSE BRAIN AND OTHER TISSUES. 106524 13-03
- TITRATED**  
EFFECTS OF INSULIN PREPARATIONS ON TITRATED SUCROSE REGULATION. 104074 13-04
- TITRIMETRIC**  
USE OF CERIC SULFATE AND CUPRIC PERCHLORATE FOR TITRIMETRIC ANALYSES OF PHENOTHIAZINE DERIVATIVES. 082763 13-06
- TOAD**  
IDENTIFICATION OF BUFOTENIN IN TOAD BRAIN BY CHROMATOGRAPHY AND MASS SPECTROMETRY OF ITS DANS DERIVATIVE. 098685 13-03
- TOFENACINE**  
AN EVALUATION OF TOFENACINE (ELAMOL), A NEW DRUG FOR THE TREATMENT OF DEPRESSION. 102349 13-07
- TOFRANIL**  
ECG CHANGES IN FATAL IMIPRAMINE (TOFRANIL) INTOXICATION. 105387 13-15
- TOLERANCE**  
METABOLIC FATE OF AMPHETAMINE IN THE CAT DURING DEVELOPMENT OF TOLERANCE. 077990 13-03  
NARCOTIC TOLERANCE AND DEPENDENCE: LACK OF RELATIONSHIP WITH SEROTONIN TURNOVER IN THE BRAIN. 082727 13-03  
THE EFFECT OF P-CHLOROPHENYLALANINE ON OPIATE INDUCED RUNNING, ANALGESIA, TOLERANCE AND PHYSICAL DEPENDENCE IN MICE. 082781 13-04  
ACUTE TOLERANCE TO THE HYPOTHERMIC EFFECT OF MARIHUANA IN THE RAT. 085487 13-13  
SOME RELATIONS BETWEEN TOLERANCE AND PHYSICAL DEPENDENCE TO MORPHINE IN MICE. 086809 13-04  
METHODS FOR INVESTIGATING BARBITURATE TOLERANCE. 087362 13-06  
A COMPARISON OF TECHNIQUES TO INDUCE ALCOHOL DEPENDENCE AND TOLERANCE IN THE MOUSE (UNPUBLISHED PAPER). 087462 13-06

# Subject Index

# Psychopharmacology Abstracts

- COMPARISON BETWEEN ACUTE AND CHRONIC ADMINISTRATION OF ETHYL-ALCOHOL ON THE DEVELOPMENT OF TOLERANCE TO PENTOBARBITAL. 088732 13-03
- BEHAVIORAL TOLERANCE OF SQUIRREL MONKEYS TO HYPOXIA: A MODEL FOR EVALUATING DRUG THERAPY. 091102 13-06
- TOLERANCE TO OPIOID NARCOTICS: TIME COURSE AND REVERSIBILITY OF PHYSICAL DEPENDENCE IN MICE. 098926 13-03
- MORPHINE TOLERANCE AND DEPENDENCE INDUCED BY INTRAVENTRICULAR INJECTION. 099826 13-04
- UNSUCCESSFUL ATTEMPTS TO TRANSFER MORPHINE TOLERANCE AND PASSIVE AVOIDANCE BY BRAIN EXTRACTS. 100938 13-04
- CONSUMMATORY BEHAVIOR DURING TOLERANCE TO AND WITHDRAWAL FROM CHRONIC DEPRESSION OF CHOLINESTERASE ACTIVITY. 102094 13-04
- THE DEVELOPMENT OF TOLERANCE TO AND OF PHYSICAL DEPENDENCE ON MORPHINE FOLLOWING INTRAVENTRICULAR INJECTION IN THE RAT. 102883 13-04
- EFFECTS OF CHOLINOLYTIC AGENTS ON BEHAVIOR FOLLOWING DEVELOPMENT OF TOLERANCE TO LOW CHOLINESTERASE ACTIVITY. 103949 13-04
- DEVELOPMENT OF BEHAVIORAL TOLERANCE TO MORPHINE AND METHADONE USING THE SCHEDULE CONTROLLED BEHAVIOR OF THE PIGEON. 104809 13-04
- SENSORY INFLUENCES UPON AMPHETAMINE TOLERANCE. 106694 13-04
- PERCEPTION AND TOLERANCE OF PAIN AS A MEASURE OF ANTIPSYCHOTIC TREATMENT. 121259 13-08
- A MECHANISM FOR THE DEVELOPMENT OF TOLERANCE TO AMPHETAMINE IN RATS. 125166 13-03
- STUDIES ON MORPHINE DEMONSTRATING THE PHENOMENA OF PHARMACOLOGIC TOLERANCE, BEHAVIORAL TOLERANCE AND BEHAVIORAL HABITUATION. (PH.D. DISSERTATION). 125242 13-04
- DIFFERENCES IN TOLERANCE TO MESCALINE PRODUCED BY PERIPHERAL AND DIRECT CENTRAL ADMINISTRATION. 125255 13-03
- PARTICIPATION OF LIVER FUNCTION IN THE ACUTE TOLERANCE TO PENTOBARBITAL INDUCED AFTER SHORT-TERM INFUSION. 125326 13-03
- TOLERANT**
- N-DEMETHYLATION OF N-14C-METHYL-CODEINE IN MORPHINE TOLERANT AND NONTOLERANT RATS AND MICE. MEDICINE. 077878 13-03
- DISTURBED PATTERNS OF BEHAVIOUR IN MORPHINE TOLERANT AND ABSTINENT RATS. 096150 13-04
- AMOUNTS AND TURNOVER RATES OF BRAIN PROTEINS IN MORPHINE TOLERANT MICE. 104009 13-03
- TONE**
- PHARMACOLOGICAL COMPARISON OF PROSTAGLANDIN-F-2-ALPHA, SEROTONIN AND NOREPINEPHRINE ON CEREBROVASCULAR TONE OF MONKEY. 099653 13-03
- TONUS**
- CHANGES IN THE BLADDER AND SPHINCTER TONUS OF THE BLADDER BY MEANS OF THYMOLEPTICS: CYSTOMANOMETRIC STUDIES IN MAN. 122292 13-15
- TOOTH**
- THE EFFECTS OF MORPHINE, PENTOBARBITAL AND CHLORPROMAZINE ON BIOELECTRICAL POTENTIALS EVOKED IN THE BRAIN STEM OF THE CAT BY ELECTRICAL STIMULATION OF THE GINGIVA AND TOOTH PULP. 094254 13-05
- TOXIC**
- TOXIC AND UNDESIRABLE TREATMENT EFFECTS WITH LITHIUM IN PSYCHIATRY. 086647 13-05
- THIORIDAZINE INDUCED TOXIC PSYCHOSIS. 089349 13-15
- TOXIC PSYCHOSIS INDUCED BY HIGH-DOSAGE CHLORPROMAZINE THERAPY. 089350 13-15
- TOXIC PSYCHOSIS INDUCED BY ASTHMA-DOR. 092693 13-15
- THE INFLUENCE OF ADRENOLYTIC AGENTS ON THE CATECHOLAMINE TOXIC ACTION IN MICE AND RATS. 098296 13-05
- TOXIC DRUG-INDUCED PSYCHOSES. 101309 13-15
- TOXIC EFFECT OF LSD-25 ON A CULTURE OF KIDNEY CELLS FROM CERCOPTHECUS-AETHIOPS MONKEYS. 125418 13-05
- TOXICITY**
- LITHIUM TOXICITY IN A NEWBORN. 077909 13-15
- EFFECT OF TRYPTOPHAN ON TOXICITY AND DEPRESSANT EFFECTS OF BARBITURATES AND ETHANOL IN RATS. 078164 13-03
- TOXICITY OF LITHIUM CARBONATE IN ELDERLY PATIENTS. 079779 13-13
- MECHANISM OF THE ANTAGONISM BY 5-HYDROXYTRYPTAMINE OF THE TOXICITY DUE TO CERTAIN CHOLINERGIC BLOCKING AGENTS. 086898 13-03
- AMPHETAMINE TOXICITY IN GENETICALLY AGGRESSIVE AND NONAGGRESSIVE MICE. 087119 13-05
- ACUTE TOXICITY OF DELTA9-TETRAHYDROCANNABINOL IN RATS AND MICE. 088625 13-05
- ANTIPARKINSONIAN EFFICACY AND TOXICITY OF L-DOPA ALONE AND IN COMBINATION WITH ALPHA-METHYLDOPAHYDRAZINE (MDH) (UNPUBLISHED PAPER). 092899 13-09
- ACUTE ORAL TOXICITY OF CANNABINOIDS IN VARIOUS SPECIES (UNPUBLISHED PAPER). 093082 13-05
- COMPARISON OF PYRAZOLE AND 4-BROMOPYRAZOLE AS INHIBITORS OF ALCOHOL DEHYDROGENASES: THEIR POTENCY, TOXICITY AND DURATION OF ACTION IN MICE. 094253 13-05
- THE INFLUENCE OF PHENELZINE ON THE TOXICITY OF CHOLINERGIC DRUGS MODIFIED BY RESERPINE. 098294 13-05
- THE TOXICITY OF TWO MAO INHIBITORS COMBINED WITH 5-HTP OR L-DOPA IN ANESTHETIZED MICE. 103314 13-05
- INCREASED AGGRESSION AND TOXICITY IN GROUPED MALE MICE TREATED WITH TRANQUILIZING BENZODIAZEPINES. 104380 13-05
- INCREASED TOXICITY OF MORPHINE-LIKE ANALGESICS IN AGGREGATED MICE. 106845 13-05
- ELEVATION OF BRAIN GABA BY PARGYLINE: A POSSIBLE MECHANISM FOR PROTECTION AGAINST OXYGEN TOXICITY. 106920 13-03
- THE EFFECTS OF SUBACUTE ADMINISTRATION OF TRIIODOTHYRONINE (T3) ON THE ACUTE TOXICITY OF LITHIUM IN THE RAT. 107864 13-05
- ASSESSMENT OF FLUORACISINE TOXICITY. 111131 13-05
- THE EFFECT OF LOCAL ANESTHETICS ON THE CENTRAL NERVOUS SYSTEM TOXICITY OF HYPERBARIC OXYGEN. 122540 13-03
- TOXICOLOGIC**
- A TOXICOLOGIC VIEW OF MARIJUANA. 101156 13-15
- TOXICOLOGIC STUDIES OF FENFLURAMINE. 112001 13-05
- TOXICOLOGICAL**
- CLINICAL TOXICOLOGICAL AND ELECTROENCEPHALOGRAPHIC STUDY WITH SCH-12679 IN CHRONIC SCHIZOPHRENICS. 103325 13-07
- TOXICOLOGY**
- TOXICOLOGY AND TERATOLOGY OF MARIJUANA AND CONSTITUENTS (UNPUBLISHED PAPER). 093551 13-05
- TOXICOMANIC**
- TOXICOMANIC BEHAVIOR FROM ARTANE. 100403 13-15
- TPN-12**
- ASSESSMENT OF THE CLINICAL ACTION OF THE PREPARATION TPN-12 SANDOZ IN THE TREATMENT OF MENTAL DISTURBANCES. 122946 13-11
- TRACHEAL**
- POTENTIATION BY COCAINE OF RESPONSES OF THE GUINEA-PIG ISOLATED TRACHEAL CHAIN TO ETHYLNORADRENALINE AND ALPHA-METHYLNORADRENALINE. 122550 13-03
- TRAINING**
- EFFECTS OF CHRONIC AND ACUTE MORPHINE ADMINISTRATION ON ONE-WAY AVOIDANCE TRAINING. 097769 13-14
- THE INCORPORATION OF (3H)URIDINE MONOPHOSPHATE INTO THE RAT BRAIN DURING THE TRAINING PERIOD. A MICROAUTORADIOGRAPHIC STUDY. 086805 13-03

- RELEARNING AT DIFFERENT TIMES AFTER TRAINING AS AFFECTED BY CENTRALLY AND PERIPHERALLY ACTING CHOLINERGIC DRUGS IN THE MOUSE. 097739 13-04
- THE INFLUENCE OF TRAINING AND AVOIDANCE PERFORMANCE ON DISULFIRAM INDUCED CHANGES IN BRAIN CATECHOLAMINES. 100216 13-03
- MODIFICATION OF CONFLICT BEHAVIOR BY PRIOR EXPERIENCE: EFFECTS OF TRAINING AND MORPHINE. 104325 13-04
- EFFECTS OF PUROMYCIN ON RETENTION OF INSTRUMENTAL TRAINING OF MICE. 106685 13-04
- TRANQUILIZATION**  
RAPID TRANQUILIZATION. 104086 13-08
- TRANQUILIZED**  
ACCEPTANCE OF ORGAN LAMBS BY TRANQUILIZED EWES (OVIS-ARIES). 100048 13-04
- TRANQUILIZER**  
PHARMACOLOGIC STUDIES WITH ABBOTT-30360, AN ANALGESIC TRANQUILIZER, AND ITS ANALOGUES. 077991 13-02
- THE EFFECTS OF A TRANQUILIZER ON THE IMMOBILITY REACTION IN CHICKENS: ADDITIONAL SUPPORT FOR THE FEAR HYPOTHESIS. 088069 13-04
- DRUG INTERFERENCE WITH MEASUREMENT OF ADRENAL HORMONES IN URINE: ANALGESICS AND TRANQUILIZER SEDATIVES. 104427 13-13
- RELAXATION TRANSFER IN ELECTRODERMAL ACTIVITY AS AFFECTED BY A NEW MINOR TRANQUILIZER (4306CB). 105006 13-14
- EFFECT OF 7-BROMO-5-(2-PYRIDYL-3H-1,4 BENZODIAZEPINONE, BROMAZEPAM (RO-5-3350), A NEW MINOR TRANQUILIZER, ON PSYCHONEUROSIS WITH SPECIAL REFERENCE TO THE OBSSIVE-COMPULSIVE SYMPTOMS. 118969 13-10
- TRANQUILIZERS**  
TREATING ANXIETY AND DEPRESSION IN THE ELDERLY: A DOUBLE-BLIND CROSSOVER EVALUATION OF TWO WIDELY USED TRANQUILIZERS. 079011 13-11
- II. MAJOR TRANQUILIZERS.  
ON THE ELECTRON DONATING PROPERTIES OF THE MAJOR TRANQUILIZERS. 082839 13-17
- EVALUATION OF A RAPID TECHNIQUE FOR DETECTING MINOR TRANQUILIZERS. 087366 13-01
- SODIUM AND POTASSIUM ACTIVATED ATPASE OF BEEF BRAIN - EFFECTS OF SOME TRANQUILIZERS. 100214 13-06
- DRUG, DOCTOR WARMTH, AND CLINIC SETTING IN THE SYMPTOMATIC RESPONSE TO MINOR TRANQUILIZERS. 101705 13-03
- EFFECTS OF PHEKOTHIAZINE TRANQUILIZERS ON THE CYCLIC 3,5 ADENOSINE MONOPHOSPHATE SYSTEM OF RAT BRAIN. 104143 13-10
- EFFECT OF TRANQUILIZERS AND ANTIDEPRESSANTS ON GLYCOGEN PHOSPHORYLASE OF RAT BRAIN. 107123 13-03
- PHARMACOLOGY OF NEW MINOR TRANQUILIZERS, BENZODIAZEPINOXAZOLE DERIVATIVES. 108283 13-03
- JUDGMENT OF THE EFFECTS OF MINOR TRANQUILIZERS. 116385 13-02
- TRANQUILIZING**  
TRANQUILIZING EFFECTS OF PROPRANOLOL DEMONSTRATED IN RATS. 123048 13-17
- INCREASED AGGRESSION AND TOXICITY IN GROUPED MALE MICE TREATED WITH TRANQUILIZING BENZODIAZEPINES. 100215 13-04
- LIDANIL - A NEW TRANQUILIZING AGENT IN THE CLINIC OF INTERNAL DISEASES. 104380 13-05
- A PSYCHODERMATOLOGICAL STUDY OF A COMBINATION OF TWO COMPOUNDS RESULTING IN A MIXED REACTION, ANTIDEPRESSIVE AND TRANQUILIZING (AMITRIPTYLINE - PERPHENAZINE). 110474 13-07
- TRANQUILLISERS**  
EFFECTIVENESS OF VARIOUS TRANQUILLISERS IN THE MANAGEMENT OF SENILE RESTLESSNESS. 121753 13-07
- EVALUATION OF TRANQUILLISERS WITH SUBNORMAL PATIENTS. 088488 13-14
- EVALUATION OF TRANQUILLISERS WITH SUBNORMAL PATIENTS: 2. PERICYAZINE AND CHLORPROMAZINE. 098736 13-14
- EVALUATION OF TRANQUILLISERS WITH SUBNORMAL PATIENTS. 3. BEHAVIOURAL CHANGES. 099440 13-09
- TRANQUILLIZER**  
PUPILLARY PARALYSIS AFTER TRANQUILLIZER. 100134 13-15
- WHEN IS A TRANQUILLIZER AN ANTIDEPRESSANT 100535 13-10
- EVALUATION OF A NEW TRANQUILLIZER - WY-4036 - IN THE TREATMENT OF ANXIETY. 107593 13-10
- TRANQUILLIZERS**  
THE INFLUENCE OF HYPNOTICS AND TRANQUILLIZERS ON SOME EVOKED CORTICAL POTENTIALS. 082760 13-03
- MINOR TRANQUILLIZERS, STRESS AND CENTRAL CATECHOLAMINE NEURONS. 086808 13-03
- TRANS-DELTA1-TETRAHYDROCANNABINOL**  
HYDROXYLATION OF TRANS-DELTA1-TETRAHYDROCANNABINOL BY A HEPATIC MICROSOMAL MONOOXYGENASE. 122580 13-03
- TRANS-TETRAHYDROCANNABINOL**  
IDENTIFICATION OF (-)-DELTA-9-6A,10A,TRANS-TETRAHYDROCANNABINOL AND TWO OF ITS METABOLITES IN RATS BY USE OF COMBINATION GAS CHROMATOGRAPHY MASS SPECTROMETRY AND MASS FRAGMENTOGRAPHY. 102733 13-03
- INFLUENCE OF (-)DELTA(G) TRANS-TETRAHYDROCANNABINOL AND MESCALINE ON THE BEHAVIOR OF RATS SUBMITTED TO FOOD COMPETITION SITUATIONS. 104578 13-04
- TRANSECTIONS**  
ACTIONS OF DEXAMPHETAMINE AND AMPHETAMINE-LIKE AMINES IN CHICKENS WITH BRAIN TRANSECTIONS. 109194 13-03
- TRANSFER**  
PLACENTAL TRANSFER OF DIAZOXIDE AND ITS HAZARDOUS EFFECT ON THE NEWBORN. 086938 13-03
- FRACTIONATION OF GOLDFISH BRAIN AMINOACYL TRANSFER RNA AT THE MICROGRAM LEVEL. 087125 13-06
- UNSUCCESSFUL ATTEMPTS TO TRANSFER MORPHINE TOLERANCE AND PASSIVE AVOIDANCE BY BRAIN EXTRACTS. 100938 13-04
- EFFECTS OF DIAZEPAM ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS. 104138 13-04
- RELAXATION TRANSFER IN ELECTRODERMAL ACTIVITY AS AFFECTED BY A NEW MINOR TRANQUILIZER (4306CB). 105006 13-14
- THE EFFECTS OF TWO TETRAHYDROCANNABINOLS, (DELTA9-THC AND DELTA8-THC) ON CONDITIONED AVOIDANCE LEARNING IN RATS AND ITS TRANSFER TO NORMAL STATE CONDITIONS. 106393 13-04
- LEARNING STRATEGY AND ITS TRANSFER UNDER THE INFLUENCE OF PHARMACOLOGICAL STRESS. 125921 13-14
- TRANSFERABLE**  
BIOCHEMICAL MECHANISMS OF TRANSFERABLE DRUG RESISTANCE. 108522 13-03
- TRANSFERASE**  
KINETICS OF THE GLUCOCORTICOID MEDIATED INDUCTION OF PHENYLETHANOLAMINE N METHYL TRANSFERASE IN THE HYPOPHYSECTOMIZED RAT. 106720 13-03
- TRANSFORMATION**  
IN VITRO EFFECTS OF CHLORPROMAZINE AND MEPROBAMATE ON BLAST TRANSFORMATION AND CHROMOSOMES. 088626 13-03
- TRANSMISSION**  
UNEXPLAINED INHIBITORY ACTION OF D-LYSERGIC ACID DIETHYLAMIDE (LSD) ON POSTGANGLIONIC MOTOR TRANSMISSION IN THE GUINEA-PIG VAS-DEFERENS. 109198 13-03
- ACTION OF IMIPRAMINE ON 5-HYDROXYTRYPTAMINERGIC TRANSMISSION AND ON 5-HYDROXYTRYPTAMINE UPTAKE IN THE SNAIL (HELIX-POMATIA) BRAIN. 120411 13-03
- FURTHER OBSERVATION ON THE ENHANCEMENT BY MORPHINE OF THE CENTRAL DESCENDING INHIBITORY INFLUENCE ON SPINAL SENSORY TRANSMISSION. 125358 13-03
- TRANSMITTER**  
MONOAMINE OXIDASE IN SYMPATHETIC NERVES: A TRANSMITTER SPECIFIC ENZYME TYPE. 108792 13-03

# Subject Index

## TRANSPORT

MECHANISM OF ACTION OF ANTIPSYCHOTIC DRUGS ON BIOLOGICAL ELECTRON TRANSPORT.

087365 13-03

DOXEPIN: EFFECTS ON TRANSPORT OF BIOGENIC AMINES IN MAN.

104571 13-13

EFFECT OF PHENELZINE ON THE METABOLISM AND MEMBRANAL TRANSPORT OF GLUCOSE IN BRAIN.

108287 13-03

## TRANSYNAPTIC

TRANSYNAPTIC INDUCTION OF DOPAMINE-BETA-HYDROXYLASE IN ADRENERGIC TISSUES OF THE RAT (UNPUBLISHED PAPER).

092859 13-03

## TRANLYCYPROMINE

TRANLYCYPROMINE TRIFLUOPERAZINE COMBINATION IN THE TREATMENT OF SCHIZOPHRENIA.

088265 13-08

## TRAUMA

STAFF MAN SYNDROME AND TRAUMA.

105547 13-11

## TRAUMATIC

TREATMENT OF PATIENTS WITH TRAUMATIC EPILEPSY IN THE INITIAL PERIOD OF THE DISEASE.

102827 13-13

## TRAZODONE

A CONTROLLED CLINICAL STUDY OF A NEW ANTIDEPRESSANT (TRAZODONE).

089066 13-10

## TREAT

PRODUCTION OF LOCAL ANAPHYLACTIC REACTIONS AS AN ATTEMPT TO TREAT DEPRESSIVE PSYCHOSES.

087035 13-07

ATTEMPT TO TREAT STUPOROUS STATES WITH FLUPHENAZINE COMBINED WITH CERTAIN HORMONES.

125787 13-08

## TREATED

ANXIOUS DEPRESSED ADULTS AND PROBLEM CHILDREN TREATED WITH THIORIDAZINE IN PRIVATE PRACTICE.

078943 13-10

BLOOD-BRAIN BARRIER TO H3-GAMMA-AMINOBUTYRIC ACID IN NORMAL AND AMINOXYACETIC ACID TREATED ANIMALS.

082756 13-03

STUDIES IN VIVO ON THE RELATIONSHIP BETWEEN BRAIN TRYPTOPHAN, BRAIN 5-HT SYNTHESIS AND HYPERACTIVITY IN RATS TREATED WITH A MONOAMINE OXIDASE INHIBITOR AND L-TRYPTOPHAN.

087124 13-03

GLUCOSE, INSULIN, AND FREE FATTY ACID METABOLISM IN PARKINSONS DISEASE TREATED WITH LEVODOPA.

096471 13-13

A SURVEY OF SELECTED DRUGS ON BEHAVIOR PERFORMANCE IN ETHANOL TREATED RATS.

099649 13-04

PLASMA MAGNESIUM CONCENTRATION AND URINARY MAGNESIUM EXCRETION IN RATS TREATED CHRONICALLY WITH MORPHINE.

099801 13-03

STRYCHNINE POISONING TREATED SUCCESSFULLY WITH DIAZEPAM.

100133 13-13

PERSISTENT PHENOTHIAZINE DYSKINESIA TREATED WITH TETRABENAZINE.

101988 13-11

INCREASED SEROTONIN TURNOVER IN THE ACUTELY MORPHINE TREATED RAT.

103648 13-03

BEHAVIOURAL EFFECTS OF D-AMPHETAMINE IN YOUNG CHICKS TREATED WITH P-CL-PHENYLALANINE.

103953 13-04

INCREASED AGGRESSION AND TOXICITY IN GROUPED MALE MICE TREATED WITH TRANQUILIZING BENZODIAZEPINES.

104380 13-05

MATING BEHAVIOR IN THE MALE RAT TREATED WITH P-CHLOROPHENYLALANINE METHYL ESTER ALONE AND IN COMBINATION WITH PARGYLINE.

104431 13-04

METABOLISM OF DELTA9-TETRAHYDROCANNABINOL BY LUNG AND LIVER HOMOGENATES OF RATS TREATED WITH METHYLCHOLANTHRENE.

104765 13-03

EFFECT OF ALDRIN ON THE CONDITION AVOIDANCE RESPONSE AND ELECTROSHOCK SEIZURE THRESHOLD OF OFFSPRING FROM ALDRIN TREATED MOTHER.

104791 13-04

BEHAVIOUR OF UNTREATED MICE TO ALCOHOL OR CHLORDIAZEPOXIDE TREATED PARTNERS.

105996 13-04

INTERRELATIONS OF FOLIC ACID AND VITAMIN-B12 IN DRUG TREATED EPILEPTIC PATIENTS.

106063 13-11

# Psychopharmacology Abstracts

INHIBITORY EFFECT OF CHLORPROMAZINE ON THE SYNDROME OF HYPERACTIVITY PRODUCED BY L-TRYPTOPHAN OR 5-METHOXY-N,N-DIMETHYLTRYPTAMINE TREATED WITH A MONOAMINE OXIDASE INHIBITOR.

108795 13-03

PSYCHIATRIC ASPECTS IN PARKINSONISM TREATED WITH L-DOPA.

111004 13-17

SLEEP APNEA AND SLEEP REGULATING MECHANISM: A CASE EFFECTIVELY TREATED WITH MONOCHLORIMIPRAMINE.

111589 13-13

ETHANOL METABOLISM IN RATS TREATED WITH ETHYL-ALPHA-P-CHLOROPHENOXYISOBUTYRATE (CLOFIBRATE).

115044 13-03

EFFECTS OF DRUG STATE CHANGES UPON TWO-WAY SHUTTLE AVOIDANCE RESPONSES IN RATS, TREATED WITH CHLORDIAZEPOXIDE OR PLACEBO.

117747 13-04

CASE OF THE CIRCULAR FORM OF CYCLOPHRENIA TREATED WITH LITHIUM CARBONATE FOR A PERIOD OF 4 YEARS.

118218 13-09

ADRENERGIC MECHANISMS IN HYPOGLYCEMIC SHOCK IN RABBITS: II. DISORDERS OF ADRENERGIC RESPONSE COMPENSATING HYPOGLYCEMIA IN RABBITS TREATED WITH SMALL DOSES OF RESERPINE.

119648 13-03

STUDIES ON DEOXYRIBONUCLEIC ACID METABOLISM IN HUMAN CELLS TREATED WITH LYSERGIC ACID DIETHYLAMIDE.

120470 13-13

PHYSICAL PERFORMANCE OF MICE TREATED WITH PROPRANOLOL, SOTALOL AND INPEA.

120818 13-04

THE UPTAKE OF MORPHINE BY THE CHOROID PLEXUS AND CEREBRAL CORTICAL SLICES OF ANIMALS CHRONICALLY TREATED WITH MORPHINE.

122543 13-03

INVESTIGATIONS ON THE ELECTROLYTE CONTENTS OF ANATOMICALLY DEFINED PARTS OF THE BRAIN IN NORMAL AND LITHIUM - TREATED RATS.

123279 13-03

DISTRIBUTION OF ELECTROLYTES WITHIN THE BRAIN OF LITHIUM TREATED RATS.

123289 13-03

LORDOSIS BEHAVIOR IN MALE RATS TREATED WITH ESTROGEN IN COMBINATION WITH TETRABENAZINE AND HIALAMIDE.

125165 13-04

## TREATING

TREATING ANXIETY AND DEPRESSION IN THE ELDERLY: A DOUBLE-BLIND CROSSOVER EVALUATION OF TWO WIDELY USED TRANQUILIZERS.

079011 13-11

METHODOLOGICAL ISSUES IN EVALUATING THE EFFECTIVENESS OF AGENTS FOR TREATING ANXIOUS PATIENTS.

095539 13-10

USE OF ANTIEPILEPTIC MEDICATION IN TREATING FLASHBACKS FROM HALLUCINOGENIC DRUGS.

102589 13-17

TREATING HYPERACTIVE CHILDREN.

102612 13-17

LITHIUM CARBONATE: A SURVEY OF THE HISTORY AND CURRENT STATUS OF LITHIUM IN TREATING MOOD DISORDERS. (UNPUBLISHED PAPER).

106053 13-09

## TREATMENT

EMOTIONAL DISTURBANCE ACCOMPANYING THE TREATMENT OF PARKINSONISM WITH L-DOPA.

069514 13-14

PHENOBARBITAL TECHNIQUE FOR TREATMENT OF BARBITURATE DEPENDENCE.

071568 13-16

TREATMENT OF HOSPITALIZED ALCOHOLICS WITH DOXEPIN AND DIAZEPAM: A CONTROLLED STUDY.

073606 13-11

DRUGS AND TREATMENT OF DEPRESSION AND MANIA.

074202 13-10

TREATMENT OF ANXIOUS DEPRESSIVE PATIENTS IN GENERAL MEDICAL PRACTICE.

074318 13-07

TREATMENT OF DEPRESSION WITH DEXEDRINE AND DEMEROL.

074868 13-07

PHARMACOLOGIC CONSIDERATIONS IN THE TREATMENT OF ANXIETY AND DEPRESSION IN MEDICAL PRACTICE.

074974 13-10

MANAGEMENT OF TREATMENT.

077416 13-17

DOXEPIN IN THE TREATMENT OF PSYCHONEUROTIC PATIENTS: A COMPARISON BETWEEN TWO CLINICAL SETTINGS.

077431 13-14

SENILEX IN THE TREATMENT OF GERIATRIC PATIENTS.

077824 13-11

- THE TREATMENT OF PSYCHONEUROTIC STATES; A STUDY OF THIORIDAZINE IN AN OFFICE PRACTICE. 078131 13-11
- COMBINED ADMINISTRATION OF THIORIDAZINE AND NICOTINIC ACID IN THE TREATMENT OF GERIATRIC PATIENTS. 078942 13-11
- A PILOT STUDY ON THE USE OF AL-1021 IN THE TREATMENT OF ACUTE SCHIZOPHRENICS. 078944 13-08
- PSYCHIATRIC TREATMENT FOR GERIATRIC PATIENTS: PDB OR DRUG? 079780 13-14
- LONG-TERM TREATMENT WITH NEUROLEPTIC DRUGS AND EYE OPACITIES. 079832 13-14
- SIDE-EFFECTS OF L-DOPA TREATMENT. 082810 13-15
- CHRONIC DOPA TREATMENT: EFFECT ON THE CONCENTRATION OF NOREPINEPHRINE IN THE HEARTS AND BRAINS OF RATS. 083161 13-03
- A CASE WITH GILLES-DE-LA-TOURETTES SYNDROME: RECURRENT REFRACTORYNESS TO HALOPERIDOL AND UNSUCCESSFUL TREATMENT WITH L-DOPA. 085013 13-10
- PSYCHIATRY: THE IMPACT OF MODERN TREATMENT. 085332 13-17
- METHYSERGIDE AS A TREATMENT FOR MANIA. 085407 13-07
- CHANGES IN PRIMATE SOCIAL BEHAVIOR AFTER TREATMENT WITH ALPHA-METHYL-P-TYROSINE. 085419 13-04
- LITHIUM CARBONATE TREATMENT IN THE MANIC-DEPRESSIVE AND PREDICTABILITY OF OUTCOME OF TREATMENT. 086166 13-15
- TREATMENT OF DEPRESSION BY INFUSION TECHNIQUE. 086519 13-09
- ATTEMPTS AT TREATMENT WITH NEULEPTIL IN CHILDREN IN A SPECIAL INSTITUTE. 086593 13-11
- ECG PICTURE IN THE COURSE OF TREATMENT OF SCHIZOPHRENIA WITH PHENOTHIAZINE DERIVATIVES. 086596 13-13
- TOXIC AND UNDESIRABLE TREATMENT EFFECTS WITH LITHIUM IN PSYCHIATRY. 086647 13-05
- COMBINATION MEDICATIONS IN PSYCHIATRIC TREATMENT: PATTERNS IN A GROUP OF ELDERLY HOSPITAL PATIENTS. 086704 13-14
- THE USE OF VALNOCTAMIDE IN THE TREATMENT OF CERTAIN BEHAVIOR DISORDERS IN CHILDREN. 086774 13-14
- BRAIN LEVELS OF IMIPRAMINE AND DESIPRAMINE AFTER COMBINED TREATMENT WITH THESE DRUGS IN RATS. 086812 13-03
- BEHAVIOR PROBLEMS IN NURSING HOME PATIENTS: TREATMENT WITH THIORIDAZINE. 086894 13-14
- CHANGES IN SOMATOSENSORY EVOKED POTENTIALS DURING FLUPHENAZINE TREATMENT. 087001 13-13
- A DOUBLE-BLIND COMPARISON OF MOLIDONE AND TRIFLUOPERAZINE IN THE TREATMENT OF ACUTE SCHIZOPHRENIA. 087033 13-08
- A CONTROLLED STUDY OF MESORIDAZINE: AN EFFECTIVE TREATMENT FOR SCHIZOPHRENIA. 087267 13-08
- MEDICAL MANAGEMENT AND TREATMENT OF DUODENAL ULCER. 088231 13-13
- MEDAZEPAM COMPARED WITH AMYLOBARBITONE IN TREATMENT OF ANXIETY. 088243 13-10
- TRANLYCYPROMINE TRIFLUOPERAZINE COMBINATION IN THE TREATMENT OF SCHIZOPHRENIA. 088265 13-08
- THE PHARMACOLOGY OF DISULFIRAM IN THE TREATMENT OF ALCOHOLISM. 088510 13-13
- RESIN HEMOPURIFICATION: A NEW TREATMENT FOR ACUTE DRUG INTOXICATION. 089039 13-16
- PROBLEMS RAISED IN THE TREATMENT OF NEUROLOGICAL AND NEUROPSYCHIATRIC MANIFESTATIONS IN SYSTEMIC LUPUS-ERYTHEMATOSUS. 089134 13-15
- CANNABIS AS A TREATMENT FOR ALCOHOLISM. 089184 13-12
- FLUPENTHIXOL (FLUANXOL) IN THE TREATMENT OF APATHIC SYNDROMES OF SCHIZOPHRENIC ORIGIN. 089300 13-08
- THIOTHIXENE (NAVANE) IN THE TREATMENT OF APATHIC SYNDROMES OF SCHIZOPHRENIC ORIGIN. 089303 13-08
- DRUG TREATMENT OF HOSPITALIZED PSYCHIATRIC PATIENTS. 089849 13-11
- SEXUAL BEHAVIOR DURING L-DOPA TREATMENT FOR PARKINSONISM. 091448 13-10
- TYBAMATE IN TREATMENT RESISTANT HEADACHES. 092162 13-07
- PSYCHOSOCIAL PROFILES AND EFFICACY OF LITHIUM TREATMENT. 092453 13-09
- THE HOSPITALIZATION PRONENESS SCALE AS A PREDICTOR OF RESPONSE TO PHENOTHIAZINE TREATMENT. 092770 13-08
- AMYTROPHIC LATERAL SCLEROSIS: METABOLISM OF CENTRAL MONOAMINES AND TREATMENT WITH L-DOPA (UNPUBLISHED PAPER). 093081 13-13
- DESENSITIZATION AND FLOODING (IMPLOSION) IN TREATMENT OF PHOBIAS. 093231 13-14
- MEASUREMENT OF PHASIC INTEGRATED POTENTIALS (PIP) DURING TREATMENT WITH PARA-CHLOROPHENYLALANINE (PCPA) (UNPUBLISHED PAPER). 093258 13-14
- CLOZAPINE, A NONCATALEPTOGENIC NEUROLEPTIC FOR THE TREATMENT OF AGITATED CONDITION BEHAVIORAL DISORDERS. 094970 13-14
- MEDICATION TREATMENT OF VASCULAR HYPOTONIC CONDITION PICTURES. 095131 13-13
- ADVERSE REACTIONS DURING TREATMENT OF PARKINSONS DISEASE WITH LEVODOPA. 095426 13-15
- APPROACHES TO MEASURING THE EFFICACY OF DRUG TREATMENT OF PERSONALITY DISORDERS: AN ANALYSIS AND PROGRAM. 095542 13-10
- PROLIXIN ENANTHATE AND THORAZINE STELAZINE REGIMENS IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS. AN EXPERIMENTAL EVALUATION. 096017 13-08
- RESULTS OF DEPRESSION TREATMENT WITH NORTRIPTYLINE. CRITICAL CLINICAL CONTRIBUTION. 096310 13-09
- LITHIUM AS A THERAPEUTIC AGENT IN THE TREATMENT OF MANIC-DEPRESSIVE ILLNESS. 097549 13-09
- CLINICAL EXPERIENCE WITH THIORIDAZINE (MELLERIL) IN THE TREATMENT OF ANXIETY AND DEPRESSION ASSOCIATED WITH EMOTIONAL DISORDERS IN GENERAL PRACTICE. 097556 13-10
- LIVEDO RETICULARIS DURING AMANTADINE TREATMENT. 098142 13-15
- COMBINED ADMINISTRATION OF THIORIDAZINE, NICOTINIC ACID, AND FLUOXYMESTERONE IN THE TREATMENT OF GERIATRIC PATIENTS. 098601 13-13
- PENTYLENETETRAZOL IN THE TREATMENT OF GERIATRIC PATIENTS WITH DISTURBED MEMORY FUNCTION. 098611 13-11
- VISUAL MOTOR PERFORMANCE DURING LITHIUM TREATMENT: A PRELIMINARY REPORT. 098612 13-14
- EFFECT OF L-DOPA TREATMENT ON BRAIN SEROTONIN METABOLISM IN DEPRESSED PATIENTS. 098686 13-13
- DECANOATE OF FLUPHENAZINE, A NEUROLEPTIC WITH RETARDED ACTION, IN THE TREATMENT OF SCHIZOPHRENIA. 098982 13-08
- DIAZEPAM TREATMENT IN A CASE OF STRYCHNINE POISONING. 099085 13-13
- DIBENZEPINE AND AMITRIPTYLINE IN THE TREATMENT OF DEPRESSION. 099124 13-10
- HALOPERIDOL AS A TREATMENT OF ANXIETY IN PSYCHONEUROTIC PATIENTS. 099155 13-10
- TREATMENT OF EMOTIONAL SYMPTOMS AND INSOMNIA WITH PLEXONAL. 099158 13-11
- TREATMENT OF PHOBIC ANXIETY AND PSYCHOGENIC IMPOTENCE BY SYSTEMATIC DESSENSITIZATION EMPLOYING METHOHEXITONE INDUCED RELAXATION. 099320 13-10
- FLUPENTHIXOL (FLUANXOL) IN THE TREATMENT OF PSYCHOSOMATIC DISORDERS IN MEDICINE. 099882 13-10
- ELECTROENCEPHALOGRAPHIC VARIATIONS FOLLOWING ANTIPSYCHOTIC DRUG TREATMENT. 100204 13-15

## Subject Index

- COMPARISON OF PRAZEPAM AND PLACEBO IN THE TREATMENT OF CONVALESCING NARCOTIC ADDICTS. 100259 13-14
- ELECTROCARDIOGRAPHIC T-WAVE CHANGES DURING LITHIUM CARBONATE TREATMENT. 100271 13-13
- THE INFLUENCE OF PROPHYLACTIC LITHIUM TREATMENT ON THE MARITAL ADJUSTMENT OF MANIC-DEPRESSIVES AND THEIR SPOUSES. 100314 13-09
- TREATMENT OF ALCOHOLIC WITHDRAWAL IN THE CHRONIC ALCOHOLIC PATIENT. 100412 13-14
- MONOAMINE PRECURSORS IN THE TREATMENT OF DEPRESSION. 100439 13-07
- DOXEPIN IN THE TREATMENT OF PSYCHONEUROTIC INPATIENTS. 100539 13-10
- TREATMENT WITH DIPERON IN AN OUTPATIENT DEPARTMENT FOR CHILDREN AND ADOLESCENTS. 100562 13-11
- CROHN'S DISEASE: TREATMENT BY CORTICOSTEROIDS, ANTIBIOTICS AND PSYCHOTHERAPY. 100854 13-11
- CLINICAL HYPOTHYROIDISM OCCURRING DURING LITHIUM TREATMENT: TWO CASE HISTORIES AND A REVIEW OF THYROID FUNCTION IN 19 PATIENTS. 101061 13-15
- ORTHOMOLECULAR TREATMENT: A BIOCHEMICAL APPROACH TO TREATMENT OF SCHIZOPHRENIA. 101158 13-08
- EXTRAPYRAMIDAL AFFLICTION IN TWO YOUNG BROTHERS; REMARKABLE EFFECTS OF TREATMENT WITH L-DOPA. 101377 13-11
- OUR EXPERIENCE WITH TREATMENT OF HEPATOLENTICULAR DEGENERATION WITH PENICILLAMINE. 101418 13-11
- INTRAVENOUS DIAZEPAM IN THE TREATMENT OF PROLONGED SEIZURE ACTIVITY IN NEONATES AND INFANTS. 101560 13-11
- DIPHENYLHYDANTOIN IN THE TREATMENT OF ALCOHOL WITHDRAWAL. 101687 13-11
- EFFECTS OF LONG-TERM RESERPINE TREATMENT ON BRAIN TYROSINE HYDROXYLASE AND BEHAVIORAL ACTIVITY. 101718 13-04
- ANTICONVULSIVE SEDATIVE TREATMENT OF DELIRIUM ALCOHOLICUM. 101754 13-11
- L-DOPA IN THE TREATMENT OF DEPRESSIVE SYMPTOMS. 101888 13-09
- COMPARATIVE EFFECTS OF LITHIUM AND CHLORPROMAZINE IN THE TREATMENT OF ACUTE MANIC STATES. 101897 13-09
- AN EVALUATION OF TOFENACINE (ELAMOL), A NEW DRUG FOR THE TREATMENT OF DEPRESSION. 102349 13-07
- TREATMENT OF SCHIZOPHRENIC PATIENTS WITH SIDNOCARB. 102654 13-07
- ON THE ANALYSIS OF SIDE (NEUROLEPTIC) MANIFESTATIONS IN THE TREATMENT OF SCHIZOPHRENIC PATIENTS WITH MAJEPTIL. 102657 13-08
- EXPERIENCE WITH TREATMENT OF INDOLENT SCHIZOPHRENIA WITH THE CENESTHOPATHIC HYPOCHONDRIACAL SYNDROME. 102669 13-08
- EXPERIENCE WITH ADMINISTRATION OF NOYLEPTIL FOR THE TREATMENT OF EMOTIONAL DISORDERS AND BEHAVIORAL DISTURBANCES IN EPILEPTIC PATIENTS. 102795 13-11
- TREATMENT OF PATIENTS WITH TRAUMATIC EPILEPSY IN THE INITIAL PERIOD OF THE DISEASE. 102827 13-13
- ON THE TREATMENT OF PATIENTS WITH NARCOLEPSY. 102828 13-17
- ON THE CLINICAL PICTURE OF COMPLICATIONS IN THE TREATMENT OF EPILEPTIC PATIENTS WITH ANTICONVULSANTS. 102829 13-15
- NICOTINIC ACID AND NICOTINAMIDE IN THE TREATMENT OF CHRONIC SCHIZOPHRENIA. 102833 13-08
- MODERN DRUG TREATMENT AND POTENTIAL HAZARDS TO HEALTH. 103047 13-17
- TREATMENT OF INTRACTABLE NARCOLEPSY WITH A MONOAMINE OXIDASE INHIBITOR. 103248 13-14
- PROLONGED TREATMENT WITH MORPHINE IN RATS: DRUG/BEHAVIOR INTERACTION UNDER AVERSIVE CONTROL. 103954 13-04
- PLASMA MONOAMINE OXIDASE ACTIVITY IN REGULARLY MENSTRUATING WOMEN AND IN AMENORRHEIC WOMEN RECEIVING CYCLIC TREATMENT WITH ESTROGENS AND A PROGESTIN. 104616 13-13

## Psychopharmacology Abstracts

- THE INFLUENCE OF TREATMENT WITH NEUROLEPTICS UPON THE ANTIBODY FORMATION. 104798 13-13
- A DOUBLE-BLIND COMPARISON OF DOTHIEPIN AND AMITRIPTYLINE FOR THE TREATMENT OF DEPRESSION WITH ANXIETY. 104830 13-09
- SOMATOSENSORY EVOKED POTENTIAL CHANGES DURING THIOETHOXENE TREATMENT IN SCHIZOPHRENIC PATIENTS. 105008 13-08
- THE TREATMENT OF ACUTE ALCOHOLISM IN A SMALL RURAL HOSPITAL. 105040 13-17
- FLUPHENAZINE ENANTHATE IN THE TREATMENT OF CHRONIC PSYCHOTIC PATIENTS: A CONTROLLED CLINICAL STUDY. 105673 13-08
- INFLUENCE OF A CHRONIC TREATMENT ON THE DISTRIBUTION OF AMITRIPTYLINE AND METABOLITES IN RABBIT BRAIN. 105708 13-03
- RESULTS OF TREATMENT WITH PIMOZIDE. 105827 13-14
- RESULTS OF LITHIUM TREATMENT OF MANIC-DEPRESSIVE PSYCHOSIS IN COMPARISON WITH THE CONTROL GROUP. 105830 13-09
- SCALE FOR RATING TREATMENT EMERGENT SYMPTOMS IN PSYCHIATRY DVP. 105837 13-15
- TREATMENT OF OBSESSIVE ILLNESSES AND PHOBIC ANXIETY STATES WITH CLOMIPRAMINE. 105889 13-10
- NC-123 IN THE TREATMENT OF DISTURBANCES OF SEXUAL POTENCY. 105922 13-14
- RELATIONSHIP BETWEEN THE THERAPEUTIC EFFECT AND SIDE-EFFECTS IN THE TREATMENT WITH ANTIDEPRESSIVE DRUGS. 105925 13-09
- CLINICAL EXPERIENCE WITH FLUPENTHIXOL IN THE TREATMENT OF CHRONIC SCHIZOPHRENIA. 105930 13-08
- A COMPARISON OF LITHIUM CARBONATE AND CHLORPROMAZINE IN THE TREATMENT OF EXCITED SCHIZO-AFFECTIVES. (UNPUBLISHED PAPER). 106066 13-08
- TREATMENT OF PAVOR-NOCTURNUS AND SOMNAMBULISM IN CHILDREN. 106954 13-11
- DIGITAL COMPUTER ANALYZED RESTING AND SLEEP EEG INVESTIGATIONS AND CLINICAL CHANGES DURING MOLINDONE TREATMENT. 107244 13-08
- EVALUATION OF A NEW TRANQUILLIZER - WY-4036 - IN THE TREATMENT OF ANXIETY. 107593 13-10
- CONTROLLED TRIAL OF THE TREATMENT OF 36 STUTTERERS. 107595 13-11
- ANTICONVULSANT EFFECT OF TRIMETHADIONE IN MICE DURING CONTINUED TREATMENT VIA THE DRINKING WATER. 107945 13-03
- VERBAL COMMUNICATION WITH L-DOPA TREATMENT. 107994 13-14
- INTERACTION OF PERSONALITY AND TREATMENT CONDITIONS ASSOCIATED WITH SUCCESS IN A SMOKING CONTROL PROGRAM. 108268 13-17
- DRUG TREATMENT IN SCHIZOPHRENIA. 108835 13-08
- COMBINED TREATMENT WITH ECT AND ANTIPSYCHOTIC DRUGS IN SCHIZOPHRENIA. 108959 13-08
- SOME APPROACHES TO THE TREATMENT OF PHOBIC DISORDERS. 109845 13-10
- TREATMENT OF PERSISTENT MENTAL CHANGES IN CHILDREN WITH EPILEPSY. 109947 13-14
- PARKINSONS DISEASE: A NEW APPROACH TO TREATMENT. 110002 13-11
- USE OF TEGRETOL IN THE TREATMENT OF EPILEPTIC PATIENTS WITH MENTAL DISORDERS. 110120 13-11
- TWO-WAY (SHUTTLE-BOX) AVOIDANCE IN RATS AFTER PARAOXON TREATMENT. 110493 13-04
- IMIPRAMINE IN THE TREATMENT OF CHILDHOOD ENURESIS. 111658 13-11
- EEG FREQUENCY ANALYSIS IN THE TREATMENT WITH SOME ANTIDEPRESSANT DRUGS: (IMIPRAMINE, AMITRIPTYLINE, DIBENZEPINE, DIMETHACRINE). 112289 13-09
- FURTHER EXPERIENCE IN THE TREATMENT OF DEPRESSIVE STATES WITH A COMBINATION OF PSYCHOTONE AND ELECTROSHOCK THERAPY. 112443 13-09
- AMANTADINE HYDROCHLORIDE TREATMENT OF TARDIVE DYSKINESIA. 112538 13-07

- COPPER SALTS IN TREATMENT OF SCHIZOPHRENIA AND THEIR EFFECT ON INSULIN THERAPY. 113429 13-08
- USE OF AMPULLIZED SEDUXEN IN TREATMENT OF EPILEPTIC STATUS. 113747 13-11
- USE OF ONE OF THE CHOLINESTERASE REACTIVATORS, DIPYROXIME, FOR TREATMENT OF MENTAL PATIENTS. 113748 13-14
- USE OF LITHIUM SALTS IN TREATMENT AND PREVENTION OF AFFECTIVE PSYCHOSES. 113750 13-09
- MODERN PSYCHIATRIC TREATMENT. 113926 13-17
- EYE CHANGES IN CONNECTION WITH NEUROLEPTIC TREATMENT ESPECIALLY CONCERNING PHENOTHAZINES AND THIOXANTHINES. 115395 13-13
- CLINICAL AND QUANTITATIVE EEG CHANGES AT DIFFERENT DOSAGE LEVELS OF FLUPHENAZINE TREATMENT. 115401 13-08
- LOXAPINE SUCCINATE IN THE TREATMENT OF UNCONTROLLABLE DESTRUCTIVE BEHAVIOR. 117023 13-11
- USE OF EXPERIMENTAL METHODS TO DETERMINE SHIFTS IN THE STATE OF SCHIZOPHRENIC PATIENTS DURING TREATMENT. 118010 13-08
- DIBENZAZEPINE (NOVERIL) IN THE TREATMENT OF DEPRESSIVE STATES. 118130 13-09
- CHOLINESTERASE ACTIVITY IN THE ERYTHROCYTES AND BLOOD PLASMA OF SCHIZOPHRENIC PATIENTS DURING TREATMENT WITH DIMETHYLAminoETHANOLIC ESTERS. 118204 13-08
- CLINICAL EVALUATION OF DIBENZAZEPINE (NOVERIL) IN THE TREATMENT OF DEPRESSIVE SYNDROMES. 118209 13-09
- PERCEPTION AND TOLERANCE OF PAIN AS A MEASURE OF ANTIPSYCHOTIC TREATMENT. 121259 13-08
- ELECTROCLINICAL STUDY OF A CASE OF NEUROMYOTONIA WITH MYOKYMIA, REACTING FAVORABLY TO CARBAMAZEPINE TREATMENT. 121796 13-13
- ACTION AND ROLE OF SULPIDINE IN THE TREATMENT OF ABDOMINAL PAIN SYNDROMES ASSOCIATED WITH PSYCHIATRIC PROBLEMS. 121849 13-17
- INFLUENCE OF ACTIVE BIOLOGICAL TREATMENT ON THE TIME OF DURATION OF REMISSION IN MANIC-DEPRESSIVE PSYCHOSIS. 122942 13-09
- ASSESSMENT OF THE CLINICAL ACTION OF THE PREPARATION TPN-12 SANDOZ IN THE TREATMENT OF MENTAL DISTURBANCES. 122946 13-11
- EXPERIENCE WITH A NEW PSYCHOTROPIC DRUG, OXAZOLAM, IN TREATMENT OF ANXIETY NEUROSES. 123050 13-10
- THE INFLUENCE OF SUBCHRONIC TETRAHYDROCANNABINOL AND CANNABIS TREATMENT ON FOOD AND WATER INTAKE, BODY WEIGHT AND BODY TEMPERATURE OF RATS. 123267 13-03
- EFFECTS OF NIGRAL LESION AND CHLORPROMAZINE TREATMENT ON TYROSINE HYDROXYLASE ACTIVITY IN CORPUS-STRIATUM OF THE RAT. 123281 13-03
- HEXOBARBITAL SLEEPING TIME AND AMPHETAMINE MOTILITY AFTER SUBCHRONIC TETRAHYDROCANNABINOL TREATMENT. 123284 13-03
- PREMATURE EJACULATION AND ITS TREATMENT. 123352 13-14
- TREATMENT OF EPILEPSY AS A PSYCHIATRIC PROBLEM. 123889 13-11
- RESULTS OF TREATMENT OF DYSTHYMIC ATTACKS WITH CARBAMAZEPINE. 123891 13-07
- USEFULNESS OF SULTHIAMINE IN THE TREATMENT OF EPILEPSY. 123892 13-11
- THE INFLUENCE OF PROLONGED AMPHETAMINE TREATMENT AND AMPHETAMINE WITHDRAWAL ON BRAIN BIOGENIC AMINE CONTENT AND BEHAVIOUR IN THE RAT. 125163 13-03
- CLIFF JUMPING IN RATS AFTER INTRAVENOUS TREATMENT WITH APOMORPHINE. 125167 13-04
- CHANGES IN A HEXOBARBITAL ANESTHESIA THRESHOLD IN RATS INDUCED BY REPEATED LONG-TERM TREATMENT WITH BARBITAL OR ETHANOL. 125248 13-03
- SOMATOSENSORY EVOKED POTENTIAL CHANGES DURING THIOXIXENE TREATMENT IN SCHIZOPHRENIC PATIENTS. 125568 13-08
- TREATMENT OF STATUS-EPILEPTICUS WITH INTRAVENOUS CHLORDIAZEPOXIDE (LIBRIUM). 125574 13-14

- TREATMENT OF HYPERBILIRUBINEMIA IN PREMATURE AND NEWBORN INFANTS WITH PHENOBARBITAL AND LIGHT THERAPY. 125867 13-13
- CLINICAL OBSERVATIONS ON THE COMPOSITE TREATMENT OF PARKINSON'S SYNDROME WITH L-DOPA AND THE DECARBOXYLASE INHIBITOR RO-4-4602. 125996 13-11
- TREATMENT OF NEUROPSYCHIATRIC DISORDERS WITH PYRIDINE-BETA-CARBONIC ACID. PART II. 126008 13-11
- EASY METHOD OF HYPNOTIC TREATMENT WITH INTRAVENOUS DIAZEPAM. 126039 13-14
- TREATMENTS**
- COURSE OF BODY TEMPERATURE IN NEUROLEPTIC INJECTION TREATMENTS: STATISTICAL EVALUATION OF RETROSPECTIVE DATA. 098272 13-15
- PHARMACOLOGICAL TREATMENTS FOR PERSONALITY DISORDERS. 121428 13-04
- TREMOR**
- ALTERATIONS IN TREMOR REGULATION AFTER INTRACAUDATE INJECTIONS OF CALCIUM IONS OR DISODIUM EDETATE. 122541 13-03
- TREMORINE**
- THE EFFECT OF DRUGS INFLUENCING AMINE SYNTHESIS ON THE ANALGESIC ACTION OF TREMORINE. 104804 13-03
- TREMOROGENESIS**
- TREMOROGENESIS: EFFECTS OF RESERPINE ON THE SUBSTANTIA-NIGRA. 122537 13-03
- TRENDS**
- PSYCHIATRIC DRUGS AND TRENDS. 100621 13-11
- TRICHOCEREUS**
- CACTACEAE ALKALOIDS: X. ALKALOIDS OF TRICHOCEREUS SPECIES AND SOME OTHER CACTI. 100170 13-01
- TRICYANOAMINOPROPENE**
- THE EFFECTS OF CHRONIC DOSES OF TRICYANOAMINOPROPENE ON WATER CONSUMPTION IN THE RAT. 105078 13-04
- TRICYCLIC**
- EFFECT OF TRICYCLIC ANTIDEPRESSANTS ON MONOAMINE RESPONSES OF SINGLE CORTICAL NEURONES. 087359 13-03
- CARDIAC COMPLICATIONS OF TRICYCLIC ANTIDEPRESSANT THERAPY. 088986 13-15
- MODIFICATION BY A TRICYCLIC SERIES OF COMPOUNDS OF THE NORADRENALINE EFFECT ON THE CAT NICTITATING MEMBRANE. 089326 13-03
- A POTENTIAL CLINICAL USE FOR METHYLPHENIDATE WITH TRICYCLIC ANTIDEPRESSANTS. 092932 13-09
- TRICYCLIC ANTIDEPRESSANTS AND MONOAMINE OXIDASE INHIBITORS. 095945 13-09
- CARDIOTOXICITY OF TRICYCLIC ANTIDEPRESSANTS: PHENOTHIAZINE AND IMIPRAMINE DERIVATIVES. 097553 13-15
- METHYLPHENIDATE: A CATALYST FOR THE TRICYCLIC ANTIDEPRESSANTS. 100880 13-13
- METABOLISM OF PROPRANOLOL BY RAT LIVER MICROSOMES AND ITS INHIBITION BY PHENOTHIAZINE AND TRICYCLIC ANTIDEPRESSANT DRUGS. 101703 13-03
- PHYSOSTIGMINE THERAPY IN ACUTE TRICYCLIC ANTIDEPRESSANT POISONING. 101864 13-13
- DELAYED OXYPHENYLBUTAZONE ABSORPTION BY SOME TRICYCLIC COMPOUNDS IN THE RAT. 103650 13-03
- EFFECT OF DIMETHYL AND MONOMETHYL TRICYCLIC ANTIDEPRESSANTS ON CENTRAL 5-HYDROXYTRYPTAMINE PROCESSES IN THE FROG. 106426 13-03
- INDICATIONS FOR TRICYCLIC ANTIDEPRESSANT DRUGS. 108696 13-09
- COMPARATIVE STUDY OF THE EFFECT OF TRICYCLIC ANTIDEPRESSANTS ON THE SELF-STIMULATION REACTION OF THE BRAIN IN RATS. 111292 13-03
- TRICYCLIC ANTIDEPRESSANTS AND HEART DISEASE. 111564 13-15
- TRICYCLIC ANTIDEPRESSANTS AND HEART DISEASE. 111724 13-15
- INTERACTIONS BETWEEN CATECHOLAMINES AND TRICYCLIC AND MONOAMINE OXIDASE INHIBITOR ANTIDEPRESSIVE AGENTS IN MAN. 120418 13-13
- THE INTERFERENCE OF TRICYCLIC PSYCHOACTIVE DRUGS ON THE UPTAKE OF BIOGENIC AMINES BY ISOLATED MAST CELLS. 123282 13-03

- TRIFLUOPERAZINE**  
THE CLINICAL EFFECTS OF INTRAMUSCULAR THIOTHIXENE AND TRIFLUOPERAZINE IN CHRONIC SCHIZOPHRENIA: A COMPARATIVE STUDY. 077822 13-08
- A CLINICAL COMPARISON OF MOLINDONE HYDROCHLORIDE WITH TRIFLUOPERAZINE IN PSYCHOTIC OUTPATIENTS. 078941 13-08
- A DOUBLE-BLIND COMPARISON OF MOLINDONE AND TRIFLUOPERAZINE IN THE TREATMENT OF ACUTE SCHIZOPHRENIA. 087033 13-08
- TRANLYCYPROMINE TRIFLUOPERAZINE COMBINATION IN THE TREATMENT OF SCHIZOPHRENIA. 088265 13-08
- GLOBAL RATINGS COMPARED TO RATING SCALES IN EVALUATING TRIFLUOPERAZINE AMOBARBITAL IN ANXIOUS PSYCHONEUROTIC OUTPATIENTS. 098093 13-10
- EFFECTS OF CHRONIC TRIFLUOPERAZINE ADMINISTRATION IN MULTIPLE DOSAGES ON RAT OFFSPRING BEHAVIOR. 102824 13-04
- DIFFERENT EFFECTS OF TRIFLUOPERAZINE WHEN ADMINISTERED DAYTIME OR NIGHT. 107755 13-08
- CHANGES IN THE ACTIVITY OF OXIDATIVE ENZYMES IN THE BRAIN OF RATS UNDER THE EFFECT OF TRIFLUOPERAZINE (STELAZINE). 113522 13-03
- TRIFLUPERIDOL**  
TRIFLUPERIDOL IN CHRONIC MALE PSYCHIATRIC PATIENTS. 098731 13-14
- EFFECTS OF HALOPERIDOL, TRIFLUPERIDOL, NITRAZEPAM AND CHLORDIAZEPOXIDE UPON CONDITIONED MIDBRAIN BEHAVIORAL RESPONSES. 106394 13-04
- TRIHYDROXYBENZYL**  
REDUCTION OF HISTAMINE IN MOUSE BRAIN BY NL (DL-SERYL)-N2-(2,3,4 TRIHYDROXYBENZYL) HYDRAZINE AND RESERPINE. 122546 13-03
- TRIODOTHYRONINE**  
THE EFFECTS OF SUBACUTE ADMINISTRATION OF TRIODOTHYRONINE (T3) ON THE ACUTE TOXICITY OF LITHIUM IN THE RAT. 107864 13-05
- TRIMEPROPRIMINE**  
CONTROLLED COMPARISON OF THE THERAPEUTIC EFFECT OF TRIMEPROPRIMINE AND AMITRIPTYLINE. 105835 13-11
- TRIMETHADIONE**  
EFFECT OF TRIMETHADIONE ON THE SELF-STIMULATION PHENOMENON. 100507 13-04
- ANTICONVULSANT EFFECT OF TRIMETHADIONE IN MICE DURING CONTINUED TREATMENT VIA THE DRINKING WATER. 107945 13-03
- TRIMETHOXY-BETA-PHENYLETHYLAMINE**  
OXIDATIVE METABOLISM OF Mescaline IN THE CENTRAL NERVOUS SYSTEM - II. OXIDATIVE DEAMINATION OF Mescaline AND 2,3,4 TRIMETHOXY-BETA-PHENYLETHYLAMINE BY DIFFERENT MOUSE BRAIN AREA IN VITRO. 102734 13-03
- TRIMETHOXYBENZOIC**  
ON THE RELATIONSHIP BETWEEN THE CHEMICAL STRUCTURE AND PSYCHOTROPIC ACTIVITY AMONG DERIVATIVES OF BENZODIOXANE AND TRIMETHYLBENZOIC AND TRIMETHOXYBENZOIC ACIDS. 111291 13-03
- TRIMETHOXYPHENYL**  
CIS- AND TRANS-2-(3,4,5 TRIMETHOXYPHENYL)CYCLOHEXYLAMINES: N METHYL AND N,N DIMETHYL DERIVATIVES. 082764 13-01
- TRIMETHOXYPHENYLETHYLAMINE**  
ALTERATION OF BEHAVIOURAL CHANGES INDUCED BY 3,4,5 TRIMETHOXYPHENYLETHYLAMINE (Mescaline) BY PRETREATMENT WITH 2,4,5 TRIMETHOXYPHENYLETHYLAMINE: A SELF-EXPERIMENT. 102193 13-12
- TRIMETHYLBENZOIC**  
ON THE RELATIONSHIP BETWEEN THE CHEMICAL STRUCTURE AND PSYCHOTROPIC ACTIVITY AMONG DERIVATIVES OF BENZODIOXANE AND TRIMETHYLBENZOIC AND TRIMETHOXYBENZOIC ACIDS. 111291 13-03
- TRIPERIDOL**  
EFFECT OF TRIPERIDOL ON PROCESSES INVOLVING ACETYLCHOLINE IN RAT BRAIN IN VITRO. 086821 13-03
- TRIPHTHASINE**  
EFFECT OF TRIPHTHASINE AND CHLORPROMAZINE ON NORADRENALINE AND ATP CONCENTRATION IN THE GRANULATION AND SUPERNATANT FRACTIONS OF THE BRAIN STEM. 111293 13-03
- EFFECT OF TRIPHTHASINE ON CONDITIONED REFLEX PROCESSES ACCORDING TO PARAMETERS OF EVOKED POTENTIALS. 113749 13-04
- TRIPLE-BLIND**  
EFFECTIVENESS OF ANTIDEPRESSANT DRUGS: A TRIPLE-BLIND STUDY COMPARING IMIPRAMINE, DESIPRAMINE, AND PLACEBO. 079289 13-10
- TRITIATED**  
THE METABOLISM OF TRITIATED ATROPINE IN DATURA-INNOXIA. 100169 13-03
- TRITON-WR-1339**  
CEREBRAL LYSOSOMES: VI. THE IN VIVO UPTAKE OF TRITON-WR-1339 BY THE LYSOSOMES OF THE IMMATURE CEREBRAL CORTEX AND CEREBELLUM. 088285 13-03
- TROXONIUM**  
TROXONIUM TASYLATE IN DRUG-INDUCED PARKINSONISM: A CONTROLLED COMPARATIVE STUDY. 100260 13-07
- TRYPTAMINE**  
THE DISPOSITION AND METABOLISM OF TRYPTAMINE AND THE IN VIVO FORMATION OF 6-HYDROXYTRYPTAMINE IN THE RABBIT. 082786 13-03
- MIANSERIN HYDROCHLORIDE: PERIPHERAL AND CENTRAL EFFECTS IN RELATION TO ANTAGONISM AGAINST 5-HYDROXYTRYPTAMINE AND TRYPTAMINE. 107160 13-03
- ANALYSIS OF THE CENTRAL EFFECT OF TRYPTAMINE AND N,N DIMETHYLTRYPTAMINE. 111132 13-03
- TRYPTOPHAN**  
EFFECT OF TRYPTOPHAN ON TOXICITY AND DEPRESSANT EFFECTS OF BARBITURATES AND ETHANOL IN RATS. 078164 13-03
- EFFECT OF PSYCHOTROPIC DRUGS ON TRYPTOPHAN CONCENTRATION IN THE RAT BRAIN. 086107 13-03
- STUDIES IN VIVO ON THE RELATIONSHIP BETWEEN BRAIN TRYPTOPHAN, BRAIN 5-HT SYNTHESIS AND HYPERACTIVITY IN RATS TREATED WITH A MONOAMINE OXIDASE INHIBITOR AND L-TRYPTOPHAN. 087124 13-03
- EFFECT OF ACUTE AND CHRONIC ADMINISTRATION OF ETHANOL ON THE 5-HYDROXYTRYPTAMINE TURNOVER AND TRYPTOPHAN HYDROXYLASE ACTIVITY OF THE MOUSE BRAIN. 088284 13-03
- STIMULATION OF (14C) SEROTONIN SYNTHESIS FROM (14C) TRYPTOPHAN BY Mescaline IN RAT PINEAL ORGAN CULTURES. 088702 13-03
- TRYPTOPHAN 5-HYDROXYLASE: APPROXIMATION OF HALF-LIFE AND AXONAL FLOW RATE (UNPUBLISHED PAPER). 092508 13-03
- TRYPTOPHAN PYRROLASE ACTIVITY AFTER CHRONIC ADMINISTRATION OF RESERPINE AND APOMORPHINE IN RATS. 106096 13-03
- ROLE OF CENTRAL SEROTONINERGIC PROCESSES IN DEVELOPMENT OF HEAD TWITCHES IN MICE AND RATS UNDER THE INFLUENCE OF TRYPTOPHAN. 109920 13-02
- TRYPTOPHOL**  
PYRAZOLE AND ETHANOL POTENTIATION OF TRYPTOPHOL INDUCED SLEEP IN MICE. 103647 13-04
- TWITCHES**  
ROLE OF CENTRAL SEROTONINERGIC PROCESSES IN DEVELOPMENT OF HEAD TWITCHES IN MICE AND RATS UNDER THE INFLUENCE OF TRYPTOPHAN. 109920 13-02
- TWO-WAY**  
CENTRAL CHOLINERGIC BLOCKADE AND TWO-WAY AVOIDANCE ACQUISITION: THE ROLE OF RESPONSE DISINHIBITION. 102097 13-04
- TWO-WAY (SHUTTLE-BOX) AVOIDANCE IN RATS AFTER PARAOXON TREATMENT. 110493 13-04
- EFFECTS OF DRUG STATE CHANGES UPON TWO-WAY SHUTTLE AVOIDANCE RESPONSES IN RATS, TREATED WITH CHLORDIAZEPOXIDE OR PLACEBO. 117747 13-04
- TYBAMATE**  
TYBAMATE IN TREATMENT RESISTANT HEADACHES. 092162 13-07
- TYRAMINE**  
A COMPARISON OF FG-5310, A NEW SELECTIVE MONOAMINE OXIDASE INHIBITOR, AND OTHER MAO INHIBITORS ON THE BLOOD PRESSURE RESPONSE TO TYRAMINE. 123287 13-03
- TYROSINE**  
EFFECTS OF LONG-TERM RESERPINE TREATMENT ON BRAIN TYROSINE HYDROXYLASE AND BEHAVIORAL ACTIVITY. 101718 13-04

- BEHAVIORAL EFFECTS OF HALOPERIDOL AFTER TYROSINE HYDROXYLASE INHIBITION. 104171 13-04
- POTENTIATION OF HALOPERIDOL BY TYROSINE HYDROXYLASE INHIBITION. 123269 13-03
- EFFECTS OF NIGRAL LESION AND CHLORPROMAZINE TREATMENT ON TYROSINE HYDROXYLASE ACTIVITY IN CORPUS-STRIATUM OF THE RAT. 123281 13-03
- UCB-6215  
EXPERIMENTS WITH UCB-6215, A DRUG WHICH ENHANCES ACQUISITION IN RATS: ITS EFFECTS COMPARED WITH THOSE OF METHAMPHETAMINE. 107159 13-04
- ULCER  
MEDICAL MANAGEMENT AND TREATMENT OF DUODENAL ULCER. 088231 13-13
- ULCERATION  
THE EFFECTS OF ETHANOL ON THE DEVELOPMENT OF GASTRIC ULCERATION IN THE RAT. 085478 13-03
- EFFECT OF AMINO GUANIDINE, CHLORPROMAZINE AND MSD-1055 ON GASTRIC SECRETION AND ULCERATION IN THE SHAY RAT. 089442 13-03
- ULTRASTRUCTURE  
THE ULTRASTRUCTURE OF THE SYNAPTIC APPARATUS FOLLOWING INTRODUCTION OF PHENAMINE AND HALOPERIDOL. 107720 13-03
- UNCONSCIOUS  
THE UNCONSCIOUS PATIENT FROM THE NEUROLOGICAL VIEWPOINT. 089212 13-15
- NEUROPHYSIOLOGICAL EFFECTS OF DIFFERENT ANESTHETICS IN UNCONSCIOUS MAN. 111343 13-13
- UNCONTROLLABLE  
LOXAPINE SUCCINATE IN THE TREATMENT OF UNCONTROLLABLE DESTRUCTIVE BEHAVIOR. 117023 13-11
- UNCORRELATED  
A SEARCH FOR UNCORRELATED THIN LAYER CHROMATOGRAPHIC SYSTEMS FOR THE IDENTIFICATION OF BASIC DRUGS. 115897 13-06
- UNDERREPORTING  
PRIMARY LEVELS OF UNDERREPORTING PSYCHOTROPIC DRUG USE. 078803 13-17
- UNDESIRABLE  
TOXIC AND UNDESIRABLE TREATMENT EFFECTS WITH LITHIUM IN PSYCHIATRY. 086647 13-05
- UNILATERAL  
ACTION OF VARIOUS CENTRALLY ACTING AGENTS IN MICE WITH UNILATERAL 108731 13-03
- UNIPOLAR  
DIFFERENTIAL RESPONSE TO LITHIUM IN BIPOLAR VS UNIPOLAR DEPRESSED PATIENTS (UNPUBLISHED PAPER). 093454 13-09
- UNIT  
AN ADVERSE REACTION UNIT: RESULTS AND FUNCTIONS. 085460 13-15
- DRUG MONITORING IN A PSYCHIATRIC UNIT. 099312 13-16
- PRESCRIBING PRACTICE IN A PSYCHIATRIC UNIT. 099906 13-15
- EVOLED POTENTIAL AND SINGLE UNIT STUDIES OF NEURAL MECHANISMS UNDERLYING THE EFFECTS OF REPETITIVE STIMULATION IN THE AUDITORY PATHWAY. 108671 13-03
- UNITED  
ACUTE ADVERSE REACTIONS TO LSD IN CLINICAL AND EXPERIMENTAL USE IN THE UNITED KINGDOM. 099307 13-12
- UNITIOL  
CESSATION OF STATUS-EPILEPTICUS WITH UNITIOL. 110144 13-13
- UNLABELLED  
CHANGES IN THE FORMATION OF 3H-CATECHOLAMINES FROM 3H-DOPA AND 3H-TYROSINE INDUCED BY UNLABELLED DOPA. 103313 13-03
- UNLOCALIZED  
BEHAVIORAL CONTRAST: AN UNLOCALIZED EFFECT OF A LOCAL ANESTHETIC. 106688 13-04
- UNREST  
NEW POSSIBILITIES OF CONTROLLING STATES OF UNREST OF A PSYCHOMOTOR OR CEREBROSCLECTIC NATURE IN INSTITUTIONAL GERIATRICS. 102383 13-11
- UNRESTRAINED  
STATISTICAL AMPLITUDE ANALYSIS OF THE INTEGRATED ELECTROCORTICOGRAM OF UNRESTRAINED RATS BEFORE AND AFTER PROCHLORPEMAZINE. 082843 13-03
- REINVESTIGATION OF THE EFFECTS OF GAMMA-HYDROXYBUTYRATE ON THE SLEEP CYCLE OF THE UNRESTRAINED INTACT CAT. 109621 13-03
- ON THE FUNCTIONAL RELATIONSHIP BETWEEN PHYSIOLOGICAL AND PENTETRAZOL INDUCED RHYTHMIC ACTIVITY IN THE EEG OF UNRESTRAINED RATS. 113567 13-03
- UNSUCCESSFUL  
A CASE WITH GILLES-DE-LA-TOURETTES SYNDROME: RECURRENT REFRACTORINESS TO HALOPERIDOL AND UNSUCCESSFUL TREATMENT WITH L-DOPA. 085013 13-10
- UNSUCCESSFUL ATTEMPTS TO TRANSFER MORPHINE TOLERANCE AND PASSIVE AVOIDANCE BY BRAIN EXTRACTS. 100938 13-04
- UNTREATED  
REACTIONS OF MALE FIGHTERS TO MALE AND FEMALE MICE, UNTREATED OR DEODORIZED. 101738 13-04
- BEHAVIOUR OF UNTREATED MICE TO ALCOHOL OR CHLORDIAZEPoxide TREATED PARTNERS. 105996 13-04
- UNWANTED  
UNWANTED EFFECTS OF ANTICONVULSANT DRUGS. 090761 13-15
- UPSET  
EFFECTS OF DIAZEPAM AND MECLIZINE HYDROCHLORIDE ON EMOTIONAL UPSET DUE TO PERCEPTUAL DISSONANCE AND MOTION. 101578 13-04
- UPTAKE  
UPTAKE OF DIHYDROMORPHINE-3H BY SYNAPTOSOMES. 082791 13-03
- THE EFFECT OF DRUGS UPON THE UPTAKE OF 5-HYDROXYTRYPTAMINE AND METARAMINOL BY HUMAN PLATELETS. 087116 13-03
- CEREBRAL LYOSOMES: VI. THE IN VIVO UPTAKE OF TRITON-WR-1339 BY THE LYOSOMES OF THE IMMATURE CEREBRAL CORTEX AND CEREBELLUM. 088285 13-03
- UPTAKE, METABOLISM AND EXCRETION OF DESMETHYLIMIPRAMINE AND ITS METABOLITES IN THE ISOLATED PERFUSED RAT LIVER. 098616 13-03
- THE RELATIONSHIP BETWEEN THE INHIBITION OF DOPAMINE UPTAKE AND THE ENHANCEMENT OF AMPHETAMINE STEREOTYPY. 100566 13-03
- DEVELOPMENT OF THE UPTAKE AND STORAGE OF L-3H-NOREPINEPHRINE IN THE RAT BRAIN. 101846 13-03
- THE EFFECTS OF PSYCHOACTIVE AGENTS ON CALCIUM UPTAKE BY PREPARATIONS OF RAT BRAIN MITOCHONDRIA. 101847 13-03
- BLOCKADE OF NORADRENALINE UPTAKE BY 34276-BA, A NEW ANTIDEPRESSANT DRUG. 102696 13-03
- EFFECT OF CHLORPROMAZINE, DESMETHYLIMIPRAMINE AND LITHIUM ON DOPAMINE UPTAKE IN THE RAT PANCREAS. 103312 13-03
- GABA UPTAKE IN RAT CENTRAL NERVOUS SYSTEM: COMPARISON OF UPTAKE IN SLICES AND HOMOGENATES AND THE EFFECTS OF SOME INHIBITORS. 104007 13-03
- EFFECT OF AMPHETAMINE ON THE UPTAKE, RELEASE AND EFFECTIVENESS OF XYLOCHOLINE IN THE GUINEA-PIG VAS-DEFERENS. 105411 13-03
- DECREASED CALCIUM UPTAKE BY RAT FUNDAL STRIPS AFTER PRETREATMENT WITH NEURAMINIDASE OR LSD IN VITRO. 105710 13-03
- ASPECTS OF THE GASTRIC ACID ANTISECRETORY ACTIVITY OF 3,3-DIMETHYL-1-(3-METHYLAMINOPROPYL)-1-PHENYLPHALAN: A BLOCKER OF NOREPINEPHRINE UPTAKE. 106526 13-03
- THE UPTAKE AND SUBCELLULAR DISTRIBUTION OF AROMATIC AMINES IN THE BRAIN OF THE RAT. 106922 13-03
- THE EFFECT OF IMPRAMINE-LIKE DRUGS AND ANTIHISTAMINE DRUGS ON UPTAKE MECHANISMS IN THE CENTRAL NORADRENALINE AND 5-HYDROXYTRYPTAMINE NEURONS. 107961 13-03

## Subject Index

## Psychopharmacology Abstracts

- FACTORS THAT AFFECT THE BINDING AND UPTAKE OF GABA BY BRAIN TISSUE.** 111216 13-03
- FACILITATION OF NORADRENALINE UPTAKE BY LITHIUM.** 119016 13-03
- ACTION OF IMIPRAMINE ON 5-HYDROXYTRYPTAMINERGIC TRANSMISSION AND ON 5-HYDROXYTRYPTAMINE UPTAKE IN THE SNAIL (HELIX-POMATIA) BRAIN.** 120411 13-03
- EFFECT OF THE MONOAMINE OXIDASE INHIBITOR PARGYLINE ON THE UPTAKE OF LABELLED NORADRENALINE BY THE CATS SPLEEN.** 120413 13-03
- AMINE UPTAKE CHARACTERISTICS OF THE GUINEA-PIG AUERBACH PLEXUS.** 120466 13-03
- EFFECT OF CHLORPROMAZINE ON RAT TISSUE UPTAKE OF 14C-3-O-METHYL-D-GLUCOSE.** 120469 13-03
- CORRELATION OF THE RECOVERY OF THE GRANULAR UPTAKE STORAGE MECHANISM AND THE NERVE IMPULSE INDUCED RELEASE OF (3H)NORADRENALINE AFTER RESERPINE.** 120819 13-03
- THE UPTAKE OF MORPHINE BY THE CHOROID PLEXUS AND CEREBRAL CORTICAL SLICES OF ANIMALS CHRONICALLY TREATED WITH MORPHINE.** 122543 13-03
- ANTAGONISM BY PROPRANOLOL OF THE INHIBITORY EFFECT OF PHENOXYBENZAMINE ON NORADRENALINE UPTAKE IN VIVO.** 122553 13-03
- LITHIUM INDUCED INHIBITION OF THE 5-HYDROXYTRYPTAMIN UPTAKE IN VITRO BY RAT THROMBOCYTES.** 123280 13-03
- THE INTERFERENCE OF TRICYCLIC PSYCHOACTIVE DRUGS ON THE UPTAKE OF BIOGENIC AMINES BY ISOLATED MAST CELLS.** 123282 13-03
- UPTAKE AND DISTRIBUTION OF DRUGS IN THE FETUS.** 123290 13-03
- INFLUENCE OF COCAINE AND PHENOXYBENZAMINE ON NORADRENALINE UPTAKE AND RELEASE.** 125959 13-03
- URIDINE**  
**THE INCORPORATION OF (3H)URIDINE MONOPHOSPHATE INTO THE RAT BRAIN DURING THE TRAINING PERIOD. A MICROAUTORADIOGRAPHIC STUDY.** 086805 13-03
- URINARY**  
**EFFECTS OF THIOPROPERAZINE ON THE URINARY EXCRETION AND CONCENTRATION IN THE CEREBROSPINAL FLUID OF 5-HYDROXYINDOLEACETIC ACID IN THE CHRONIC SCHIZOPHRENIC.** 074835 13-13
- A NOTE ON THE INFLUENCE OF DIET IN WEST AFRICA ON URINARY PH AND EXCRETION OF AMPHETAMINE IN MAN.** 077904 13-13
- URINARY EXCRETION OF CHLORPROMAZINE AND CHLORPROMAZINE SULFOXIDE IN FOUR PATIENTS ON DIFFERENT DAYS.** 086576 13-13
- DOUBLE-BLIND STUDY ON THE CORRELATIONS OF URINARY ELIMINATION OF CATECHOLAMINES AND THEIR METABOLITES (SUPPOSED TO COME THROUGH ADRENOCHROME, NORADRENOCHROME AND DOPACHROME) WITH CLINICAL STATE OF 50 PATIENTS UNDER DIFFERENT PSYCHOPHARMACOLOGIC DRUG.** 087003 13-13
- URINARY STUDIES OF SCHIZOPHRENICS AND CONTROLS.** 097447 13-13
- PLASMA MAGNESIUM CONCENTRATION AND URINARY MAGNESIUM EXCRETION IN RATS TREATED CHRONICALLY WITH MORPHINE.** 099801 13-03
- URINARY EXCRETION OF PERPHENAZINE AND ITS SULFOXIDE DURING ADMINISTRATION IN ORAL AND LONG-ACTING INJECTABLE FORM.** 102185 13-15
- ON THE URINARY EXCRETION OF NITRAZEPAM AND ITS METABOLITES.** 117456 13-16
- URINE**  
**SCREENING FOR AMPHETAMINE IN HUMAN URINE.** 082816 13-06
- CHLORPROMAZINE. CONCENTRATIONS IN PLASMA, EXCRETION IN URINE AND DURATION OF EFFECT.** 086531 13-13
- HYDROLYSIS: A REQUISITE FOR MORPHINE DETECTION IN URINE.** 086892 13-16
- A SOURCE OF ERROR IN THE ESTIMATION OF VANILLYLMADELIC ACID IN RAT URINE USING PERIODATE OXIDATION (UNPUBLISHED PAPER).** 092893 13-06
- DETECTION OF SOME PSYCHOTHERAPEUTIC DRUGS AND THEIR METABOLITES IN URINE.** 098636 13-13
- RAPID METHOD FOR SIMULTANEOUS QUALITATIVE ASSAY OF NARCOTICS, COCAINE, QUININE AND PROPOXYPHENE IN THE URINE.** 100168 13-16
- RAPID DETECTION OF CERTAIN BASIC DRUGS IN URINE.** 101987 13-16
- DRUG INTERFERENCE WITH MEASUREMENT OF ADRENAL HORMONES IN URINE. ANALGESICS AND TRANQUILIZER SEDATIVES.** 104427 13-13
- USAGE**  
**PSYCHOACTIVE DRUGS: A USAGE GUIDE.** 102596 13-17
- USERS**  
**CHROMOSOMAL ABERRATIONS IN USERS OF PSYCHOACTIVE DRUGS.** 092717 13-14
- METABOLISM AND DISPOSITION OF TETRAHYDROCANNABINOLS IN NAIVE SUBJECTS AND MARIJUANA USERS (UNPUBLISHED PAPER).** 092894 13-13
- ADMINISTRATION OF MARIJUANA TO HEAVY AND CASUAL MARIJUANA USERS.** 100821 13-14
- VALIUM**  
**BLOOD LEVELS OF DIAZEPAM (VALIUM) AND N-DESMETHYLDIAZEPAM IN THE EPILEPTIC CHILD. A PRELIMINARY REPORT.** 093821 13-13
- EFFECT OF DIAZEPAM (VALIUM) ON DIALYSABLE THYROXINE.** 098302 13-13
- COMPARATIVE EVALUATION OF DIAZEPAM (VALIUM) AND PHENOBARBITAL FOR THE RELIEF OF ANXIETY RELATED SYMPTOMS IN PATIENTS HOSPITALIZED FOR ACUTE MYOCARDIAL INFARCTION.** 100626 13-14
- VALNOCTAMIDE**  
**THE USE OF VALNOCTAMIDE IN THE TREATMENT OF CERTAIN BEHAVIOR DISORDERS IN CHILDREN.** 086774 13-14
- VALUE**  
**VALUE OF PLASMA LITHIUM MONITORING.** 077708 13-13
- CUE VALUE OF DEXAMETHASONE FOR FEAR MOTIVATED BEHAVIOR.** 079066 13-04
- VANILLIC**  
**DEMONSTRATION OF 3,4 DIHYDROXYBENZOIC(14C) ACID AND (14C)VANILLIC ACID AFTER ADMINISTRATION OF (14C)NORADRENALINE IN THE RAT.** 088637 13-03
- VANILLYLMADELIC**  
**A SOURCE OF ERROR IN THE ESTIMATION OF VANILLYLMADELIC ACID IN RAT URINE USING PERIODATE OXIDATION (UNPUBLISHED PAPER).** 092893 13-06
- VARIATION**  
**CHOLINERGIC MECHANISM DETERMINES THE OCCURRENCE OF REWARD CONTINGENT POSITIVE VARIATION (RCPV) IN CAT.** 088543 13-03
- VARIATION IN HYDROXYTRYPTAMINE METABOLISM IN THE RAT: EFFECTS ON THE NEUROCHEMICAL RESPONSE TO PHENCYCLIDINE.** 105403 13-03
- DIURNAL VARIATION OF HEPATIC AMPHETAMINE CONCENTRATIONS IN MICE FED FREELY AND FED SINGLE DAILY MEALS.** 106425 13-03
- DAILY RHYTHMIC VARIATION AND LIVER DRUG METABOLISM IN RATS.** 120467 13-03
- A CONTINGENT POSITIVE VARIATION.** 121102 13-17
- VARIATIONS**  
**EEG, EVOKED POTENTIAL, AND CONTINGENT NEGATIVE VARIATIONS WITH LITHIUM IN MANIC DEPRESSIVE DISEASE.** 097458 13-09
- ELECTROENCEPHALOGRAPHIC VARIATIONS FOLLOWING ANTIPSYCHOTIC DRUG TREATMENT.** 100204 13-15
- VAS-DEFERENS**  
**INHIBITION OF NOREPINEPHRINE BIOSYNTHESIS BY CHLORPROMAZINE IN THE GUINEA-PIG VAS-DEFERENS.** 082784 13-03
- THE ACCUMULATION OF 14C-SEROTONIN IN THE SYMPATHETIC NERVES OF THE GUINEA-PIG VAS-DEFERENS (UNPUBLISHED PAPER).** 092689 13-03
- EFFECT OF AMPHETAMINE ON THE UPTAKE, RELEASE AND EFFECTIVENESS OF XYLOCHOLINE IN THE GUINEA-PIG VAS-DEFERENS.** 105411 13-03
- UNEXPLAINED INHIBITORY ACTION OF D-LYSERGIC ACID DIETHYLAMIDE (LSD) ON POSTGANGLIONIC MOTOR TRANSMISSION IN THE GUINEA-PIG VAS-DEFERENS.** 109198 13-03
- PHARMACOLOGICAL OBSERVATIONS ON THE VAS-DEFERENS OF THE MOUSE.** 120409 13-03
- ANALYSIS OF THE SUPERSENSITIVITY TO NORADRENALINE INDUCED BY AMPHETAMINE IN THE ISOLATED VAS-DEFERENS OF THE RAT.** 121065 13-03

- VASCULAR**  
MEDICATION TREATMENT OF VASCULAR HYPOTONIC CONDITION PICTURES. 095131 13-13
- VASOPRESSIN**  
VASOPRESSIN INHIBITION BY LITHIUM. 082829 13-15  
VASOPRESSIN INHIBITION BY LITHIUM. 082830 13-15  
VASOPRESSIN INHIBITION BY LITHIUM. 082831 13-15
- VECTOR**  
ATTEMPT TO ADMINISTER VECTOR CARDIOGRAPHY IN SCHIZOPHRENIA IN AN EVALUATION OF THE QRS COMPLEX. 118205 13-08
- VEIN**  
THE INFLUENCE OF SOME SELECTED PSYCHOACTIVE DRUGS ON THE SPONTANEOUS CONTRACTILE ACTIVITY OF THE ISOLATED MURINE PORTAL VEIN. 104964 13-03
- VENTRICLES**  
EFFECT OF ESERINE INJECTED INTRAVENTRICULARLY ON BEHAVIOUR AND ON ACTIVITY OF CHOLINESTERASE IN SOME STRUCTURES OF THE CEREBRAL VENTRICLES OF THE CONSCIOUS CAT. 106424 13-04
- VENTRICULAR**  
EFFECTS OF CHLORPROMAZINE AND PROPRANOLOL ON LEFT VENTRICULAR SYSTOLIC PRESSURE, ECG, AND POTASSIUM ION EFFLUX IN THE ISOLATED PERFUSED RAT HEART. 103311 13-03
- VERBAL**  
DYSNOMIA AND IMPAIRMENT OF VERBAL MEMORY FOLLOWING INTRACAROTID INJECTION OF SODIUM AMYTAL. 092159 13-14  
ACUTE EFFECT OF MEDAZEPAM (15MG), OXAZEPAM (20MG), AND DIAZEPAM (10MG) ON VERBAL ASSOCIATIONS. 105916 13-14  
ACUTE EFFECT OF CHLORPROTHIXENE (5MG), CAFFEINE (200MG) AND THE COMBINATION OF BOTH DRUGS ON VERBAL ASSOCIATIONS. 105997 13-14  
VERBAL COMMUNICATION WITH L-DOPA TREATMENT. 107994 13-14
- VERTERBAL**  
THE CENTRALLY INDUCED FALL IN BLOOD PRESSURE AFTER THE INFUSION OF AMPHETAMINE AND RELATED DRUGS INTO THE VERTERBAL ARTERY OF THE CAT. 106911 13-03
- VESICLES**  
IN VIVO INCORPORATION OF LABELLED CHOLINE AND ACETYLCHOLINE IN THE VESICLES OF BRAIN NERVE ENDINGS. 123283 13-03
- VESTIBULAR**  
EFFECTS OF ALCOHOL ON CEREBELLAR AND VESTIBULAR NEURONES. 103654 13-03
- VETERANS**  
A COMPARISON BETWEEN CHLORPROMAZINE AND THIOTHIXENE IN A VETERANS ADMINISTRATION HOSPITAL POPULATION. 099887 13-08
- VINYL**  
BIOCHEMICAL AND BEHAVIOURAL EFFECTS OF SOME HALO-SUBSTITUTED VINYL PHOSPHORUS ESTERS. 102102 13-03
- VIOLET**  
THE VIOLET PIGMENT OF LYSERGIC ACID ALKALOID PRODUCING CULTURES OF CLAVICEPS-PASPALI: FERRIC COMPLEX OF 2,3 DIHYDROXYBENZOIC ACID. 100171 13-01
- VISUAL**  
A STUDY OF THE RELATIONSHIP BETWEEN THE VISUAL SYSTEM AND THE EFFECTS OF D-AMPHETAMINE. 079067 13-04  
THE EFFECTS OF EPINEPHRINE AND CHLORPROMAZINE ON VISUAL CLIFF BEHAVIOR IN HOODED AND ALBINO RATS. 088070 13-04  
VISUAL MOTOR PERFORMANCE DURING LITHIUM TREATMENT: A PRELIMINARY REPORT. 098612 13-14  
BEHAVIORAL AND EEG PATTERNS IN THE CAT COINCIDENT WITH SYSTEMATIC AND INTRACRANIAL STIMULATION WITH D-AMPHETAMINE SULFATE DURING A VISUAL DISCRIMINATION TASK. (PH.D. DISSERTATION). 102635 13-03  
THE DIFFERENTIAL EFFECTS OF METHAMPHETAMINE UPON VISUAL EXPLORATORY BEHAVIOR AND SPONTANEOUS MOTOR ACTIVITY IN RHESUS MONKEYS (MACACA-MULATTA). 103040 13-04  
DRUG-INDUCED DISTORTION OF VISUAL SPACE. 108976 13-14
- VITAMIN-B12**  
INTERRELATIONS OF FOLIC ACID AND VITAMIN-B12 IN DRUG TREATED EPILEPTIC PATIENTS. 106063 13-11
- VITAMIN-B3**  
A VITAMIN-B3 DEPENDENT FAMILY. 082736 13-17  
VITAMIN-B3 DEPENDENT CHILD. 098976 13-08
- VITAMIN-E**  
VITAMIN-E INEFFECTIVE IN RECURRENT PSYCHOSIS. 104638 13-09
- VOCALIZATION**  
CANNABIS INDUCED VOCALIZATION IN THE RAT. 086155 13-04
- VOLES**  
EFFECTS OF ACTH ON VOLES (MICROTUS-PENNSYLVANICUS) RELATED TO REPRODUCTIVE FUNCTION AND RENAL DISEASE. 089016 13-03
- VOLTAGE**  
DECLINE IN THE MEAN INTEGRATED ELECTROENCEPHALOGRAPH VOLTAGE DURING MORPHINE ABSTINENCE IN THE RAT. 086106 13-03
- VOLUNTARY**  
EFFECT OF PITRESSIN ON VOLUNTARY ALCOHOL CONSUMPTION IN THE RAT. 102868 13-04
- VOLUNTEER**  
RUBIDIUM CHLORIDE INGESTION BY VOLUNTEER SUBJECTS: INITIAL EXPERIENCE. 104438 13-07
- VOLUNTEERS**  
PROBLEMS IN THE EVALUATION OF A NEW ANTIDEPRESSANT DRUG IN PRISON VOLUNTEERS. 070714 13-13  
QUANTITATIVE EEG ANALYSIS OF SINGLE-DOSE EFFECT RELATIONSHIPS IN NORMAL VOLUNTEERS OF PACINOX (CAPURIDE), A NEW ANTIANXIETY DRUG. 067487 13-10  
SOME CARDIOVASCULAR EFFECTS OF MARIHUANA SMOKING IN NORMAL VOLUNTEERS. 100418 13-13  
EVALUATION OF PYROVALERONE IN CHRONICALLY FATIGUED VOLUNTEERS. 102350 13-14  
EEG PROFILES OF FENFLURAMINE, AMOBARBITAL AND DEXTROAMPHETAMINE IN NORMAL VOLUNTEERS. 107630 13-16
- WAKEFULNESS**  
EFFECTS OF FENFLURAMINE ON SLEEP WAKEFULNESS IN CATS. 103947 13-04  
COMPARATIVE EFFECTS OF TEN ANORECTIC DRUGS ON SLEEP WAKEFULNESS PATTERNS IN CATS. 104174 13-04
- WAKING**  
NOREPINEPHRINE CONTAINING NEURONS: SPONTANEOUS ACTIVITY DURING WAKING AND SLEEPING IN FREELY BEHAVING CATS (UNPUBLISHED PAPER). 092976 13-04  
COMPARISON OF THE EFFECTS OF CYCLAZOCINE AND IMIPRAMINE ON THE CIRCADIAN SLEEP WAKING CYCLE OF THE CAT. 121220 13-05
- WALL**  
EFFECTS OF CHLORPROMAZINE ON CELL WALL BIOSYNTHESIS AND INCORPORATION OF OROTIC ACID INTO NUCLEIC ACIDS IN BACILLUS-MEGATERIUM. 088517 13-03  
EFFECT OF IMIPRAMINE ON CATECHOLAMINE CONTENT IN A NEUROGENICALLY DYSTROPHIC GASTRIC WALL. 113520 13-03
- WARD**  
THE MANAGEMENT OF EXCITEMENT IN A GENERAL HOSPITAL PSYCHIATRIC WARD BY HIGH DOSAGE HALOPERIDOL. 115398 13-14
- WARDS**  
REDUCING NIGHT SEDATION IN PSYCHOGERIATRIC WARDS. 110156 13-17
- WARMTH**  
DRUG, DOCTOR WARMTH, AND CLINIC SETTING IN THE SYMPTOMATIC RESPONSE TO MINOR TRANQUILIZERS. 104143 13-10
- WATER**  
EFFECTS OF MAGNESIUM PEMOLINE IN DIMETHYLSULFOXIDE ON REVERSAL LEARNING, MOTOR ACTIVITY, AND WATER INTAKE. 079611 13-04  
SPONTANEOUS ACTIVITY AND WATER INTAKE IN THE RAT UNDER THE EFFECTS OF SCOPOLAMINE HBR AND MAGNESIUM PEMOLINE. 086186 13-04

## Subject Index

- EFFECTS OF SOME ANTICHOLINERGIC DRUGS ON WATER MAZE LEARNED BEHAVIOUR IN MICE. 104794 13-04
- THE EFFECTS OF INTRAHYPOTHALAMIC INJECTIONS OF DESMETHYLIMPRAMINE ON FOOD AND WATER INTAKE OF THE RAT. 104806 13-04
- LYSERGIC ACID DIETHYLAMIDE, AMPHETAMINE AND CHLORPROMAZINE ON WATER MAZE DISCRIMINATION IN MICE. 104812 13-04
- THE EFFECTS OF CHRONIC DOSES OF TRICYCLOAMINOPROPENE ON WATER CONSUMPTION IN THE RAT. 105078 13-04
- ANTICONSULSANT EFFECT OF TRIMETHADIONE IN MICE DURING CONTINUED TREATMENT VIA THE DRINKING WATER. 107945 13-03
- THE EFFECTS OF HYDROXYZINE ON WATER MAZE PERFORMANCE. (PH.D. DISSERTATION). 109636 13-04
- THE INFLUENCE OF SUBCHRONIC TETRAHYDROCANNABINOL AND CANNABIS TREATMENT ON FOOD AND WATER INTAKE, BODY WEIGHT AND BODY TEMPERATURE OF RATS. 123267 13-03
- EFFECTS OF TERTIARY VS QUATERNARY SCOPOLAMINE ON WATER AND AIR DRINKING IN RATS. 123639 13-04
- WAVE**  
EFFECT OF NEMBUTAL ON THE INHIBITORY WAVE OF ANTIDROMICALLY INDUCED POTENTIAL IN THE MOTOR CORTEX OF THE CAT. 111136 13-03
- WEANLING**  
RAPID LEARNING OF PASSIVE AVOIDANCE BY WEANLING RATS. CONDITIONED TASTE AVERSION. 101354 13-04
- WEB-BUILDING**  
DRUGS ALTER WEB-BUILDING OF SPIDERS: A REVIEW AND EVALUATION. 079096 13-04
- WEIGHT**  
APPETITE STIMULATING AND WEIGHT GAIN PROPERTIES OF CYPROHEPTADINE (PERIACETIN) IN GERIATRIC SUBJECTS. 074314 13-11
- THE INFLUENCE OF SUBCHRONIC TETRAHYDROCANNABINOL AND CANNABIS TREATMENT ON FOOD AND WATER INTAKE, BODY WEIGHT AND BODY TEMPERATURE OF RATS. 123267 13-03
- WHEEL**  
PROGESTERONE ESTROGEN INTERACTIONS IN THE CONTROL OF ACTIVITY WHEEL RUNNING IN THE FEMALE RAT. 086683 13-14
- WHOLE-BODY**  
WHOLE-BODY AND REGIONAL BRAIN DISTRIBUTION OF DIAZEPAM IN NEWBORN RHESUS MONKEYS. 103651 13-03
- WITHDRAWAL**  
ALCOHOL DEPENDENCE PRODUCED IN MICE BY INHALATION OF ETHANOL. GRADING THE WITHDRAWAL REACTION. 082827 13-03
- DIPHENYLHYDANTOIN AND ALCOHOL WITHDRAWAL. 087475 13-11
- ETHCHLORVYNOL (PLACIDYL) ABUSE AND WITHDRAWAL (REVIEW OF CLINICAL PICTURE AND REPORT OF 2 CASES). 088152 13-15
- EXPERIMENTAL WITHDRAWAL OF LITHIUM IN RECOVERED MANIC-DEPRESSIVE PATIENTS: A REPORT OF FIVE CASES. 092514 13-09
- EVALUATING CHANGES IN SYMPTOMS DURING ACUTE ALCOHOLIC WITHDRAWAL. 097378 13-11
- AMPHETAMINE WITHDRAWAL. DEPRESSION AND M.H.P.G. EXCRETION. 098921 13-15
- TREATMENT OF ALCOHOLIC WITHDRAWAL IN THE CHRONIC ALCOHOLIC PATIENT. 100412 13-14
- DIAZEPAM IN THE MANAGEMENT OF THE NEONATAL NARCOTIC WITHDRAWAL SYNDROME. 101432 13-11
- DIPHENYLHYDANTOIN IN THE TREATMENT OF ALCOHOL WITHDRAWAL. 101687 13-11
- DEPRESSION ASSOCIATED WITH ALCOHOL WITHDRAWAL. 101746 13-11
- CONSUMMATORY BEHAVIOR DURING TOLERANCE TO AND WITHDRAWAL FROM CHRONIC DEPRESSION OF CHOLINESTERASE ACTIVITY. 102094 13-04
- SERUM CORTISOL IN CHRONIC SCHIZOPHRENIA: CHANGES IN THE DIURNAL RHYTHM AND PSYCHIATRIC MENTAL STATUS ON WITHDRAWAL OF DRUGS. 106050 13-08

## Psychopharmacology Abstracts

- SLEEP, PSYCHOLOGICAL AND CLINICAL CHANGES DURING ALCOHOL WITHDRAWAL IN NAD-TREATED ALCOHOLICS. 106132 13-11
- EXPERIMENTAL CHARACTERISTICS OF SOME MANIFESTATIONS COMMON TO THE WITHDRAWAL SYNDROME FOLLOWING DISCONTINUANCE OF LONG-TERM ADMINISTRATION OF DIAZEPAM AND CHLORDIAZEPOXIDE. 111134 13-04
- MORPHINE WITHDRAWAL AGGRESSION: SENSITIZATION BY AMPHETAMINES. 111142 13-04
- WITHDRAWAL SYMPTOMS FOLLOWING CESSATION OF PROLONGED NEUROLEPTIC THERAPY. 118127 13-08
- THE INFLUENCE OF PROLONGED AMPHETAMINE TREATMENT AND AMPHETAMINE WITHDRAWAL ON BRAIN BIOGENIC AMINE CONTENT AND BEHAVIOUR IN THE RAT. 125163 13-03
- WITHDRAWAL DELIRIUM IN CHLORMETHIAZOLE ADDICTION. 126041 13-15
- WITTENBORNS**  
THE EFFECTS OF MEPROBAMATE ON RISK-TAKING BEHAVIOR: A TEST OF WITTENBORNS HYPOTHESIS. (PH.D. DISSERTATION). 118619 13-14
- WOMEN**  
PLASMA MONOAMINE OXIDASE ACTIVITY IN REGULARLY MENSTRUATING WOMEN AND IN AMENORRHEIC WOMEN RECEIVING CYCLIC TREATMENT WITH ESTROGENS AND A PROGESTIN. 104616 13-13
- THE USE OF PSYCHOTHERAPEUTIC DRUGS BY MIDDLE-AGED WOMEN. 108270 13-17
- WORK**  
WORK WITH MARIJUANA: I. EFFECTS. 093697 13-14
- THE SIGNIFICANCE OF WORK THERAPY IN PARANOID SCHIZOPHRENIA. 111979 13-08
- WORKING**  
PRESCRIPTIONS OF PSYCHIATRISTS WORKING IN PRAGUE POLICLINICS. 106099 13-17
- A WORKING MODEL OF CLINICAL RESEARCH IN PRIVATE PRACTICE. 121476 13-11
- WRITHING**  
THE ANTINOCICEPTIVE ACTION OF A NOVEL ANXIOLYTIC AND TENSIOLYTIC DRUG (BENZOCETAMINE) IN TWO DIFFERENT WRITHING SYNDROMES. 118200 13-02
- WY-4036**  
EVALUATION OF A NEW TRANQUILLIZER - WY-4036 - IN THE TREATMENT OF ANXIETY. 107593 13-10
- XENOPUS-LAEVIS**  
LSD: ITS EFFECTS UPON 5-HYDROXYTRYPTAMINE IN EMBRYONIC DEVELOPMENT OF XENOPUS-LAEVIS. 098919 13-12
- XYLOCHOLINE**  
EFFECT OF AMPHETAMINE ON THE UPTAKE, RELEASE AND EFFECTIVENESS OF XYLOCHOLINE IN THE GUINEA-PIG VAS-DEFERENS. 105411 13-03
- Y-MAZE**  
THE BEHAVIOURAL EFFECTS OF LEVALLORPHAN, CYPRENORPHINE (M-285) AND AMPHETAMINE ON REPEATED Y-MAZE PERFORMANCE IN RATS. 102190 13-04
- YOHIMBINE**  
THE EFFECT OF YOHIMBINE ON BRAIN SEROTONIN METABOLISM, MOTOR BEHAVIOR AND BODY TEMPERATURE OF THE RAT. 099648 13-03
- YOUNG**  
EXTRAPYRAMIDAL AFFLICTION IN TWO YOUNG BROTHERS; REMARKABLE EFFECTS OF TREATMENT WITH L-DOPA. 101377 13-11
- BEHAVIOURAL EFFECTS OF D-AMPHETAMINE IN YOUNG CHICKS TREATED WITH P-CL-PHENYLALANINE. 103953 13-04
- YOUNGSTER**  
STIMULANTS AND THE HYPERKINETIC YOUNGSTER. 079455 13-17
- ZINC**  
PHENOTHIAZINE DERIVATIVES AND BRAIN ZINC. 088646 13-03
- 1-AMINOETHYL**  
SOME BIOCHEMICAL AND PHARMACOLOGICAL ACTIONS OF (-)-ERYTHRO-META-(META CHLOROBENZYLOXY) 2 (1-AMINOETHYL) BENZYL ALCOHOL: A DERIVATIVE OF METARAMINOL. 101702 13-03

- 1-DELTA8-TRANS-TETRAHYDROCANNABINOL**  
EFFECTS OF 1-DELTA-9 AND 1-DELTA8-TRANS-TETRAHYDROCANNABINOL AND CANNABINOL ON SCHEDULE CONTROLLED BEHAVIOR OF PIGEONS AND RATS. 094255 13-04
- 1-NAPHTHOL**  
INTERACTION OF IMIPRAMINE, DESMETHYLIMIPRAMINE, NORTRIPTYLINE, AND 1-NAPHTHOL WITH MICROSOMAL PREPARATIONS. 122576 13-03
- 1-PHENYL-2-PROPANOLS**  
CHEMISTRY AND PHARMACOLOGICAL EVALUATION OF 1-PHENYL-2-PROPANOLS AND 1-PHENYL-2-PROPANONES. 087062 13-02
- 1-PHENYL-2-PROPANONES**  
CHEMISTRY AND PHARMACOLOGICAL EVALUATION OF 1-PHENYL-2-PROPANOLS AND 1-PHENYL-2-PROPANONES. 087062 13-02
- 10-TRIMETHYLENE-PYRAZINOINDOLE**  
INVESTIGATING THE PSYCHOTROPIC EFFECT OF 1,10-TRIMETHYLENE-PYRAZINOINDOLE. 111290 13-03
- 1251**  
INSULIN RECEPTORS IN THE LIVER: SPECIFIC BINDING OF 1251 INSULIN TO THE PLASMA MEMBRANE AND ITS RELATION TO INSULIN BIOACTIVITY (UNPUBLISHED PAPER). 092377 13-03
- 14-HYDROXYNORMORPHINONE**  
CHARACTERIZATION OF THE BLOCKING EFFECTS OF EN-1639A (N-CYCLOPROPYLAMETHYL 7,8-DIHYDRO 14-HYDROXYNORMORPHINONE HCL). (UNPUBLISHED PAPER). 088400 13-13
- 14C-LEUCINE**  
EFFECT OF 6-HYDROXYDOPAMINE ON THE INCORPORATION OF 14C-LEUCINE INTO RAT BRAIN PROTEIN. 108615 13-03
- 14C-NOREPINEPHRINE**  
EFFECT OF LITHIUM ON THE RELEASE OF 14C-NOREPINEPHRINE BY NERVE STIMULATION FROM THE PERFUSED CAT SPLEEN. 077989 13-03
- 14C-SEROTONIN**  
THE ACCUMULATION OF 14C-SEROTONIN IN THE SYMPATHETIC NERVES OF THE GUINEA-PIG VAS-DEFERENS (UNPUBLISHED PAPER). 092689 13-03
- 14C-3-O-METHYL-D-GLUCOSE**  
EFFECT OF CHLORPROMAZINE ON RAT TISSUE UPTAKE OF 14C-3-O-METHYL-D-GLUCOSE. 120469 13-03
- 17-HYDROXYSTEROIDS**  
THE EFFECT OF RESERPINE AND NORTRIPTYLINE ON THE EXCRETION OF 17-HYDROXYSTEROIDS. 106095 13-13
- 5-CHLOROACETOPHENONE**  
INHIBITION OF ALDEHYDE DEHYDROGENASE BY 2-CHLOROACETOPHENONE AND THE RESULTANT EFFECTS OF THE CATABOLISM OF NOREPINEPHRINE ON BRAIN. 077726 13-03
- 3-DEOXY-D-GLUCOSE**  
EFFECTS OF RESTRAINT ON RAT ADRENOMEDULLARY RESPONSE TO 2-DEOXY-D-GLUCOSE. 103948 13-03
- 2-DIETHYLAMINOETHYL**  
THE DELAY OF THE BEHAVIORAL EFFECTS OF DELTA9-TETRAHYDROCANNABINOL IN RATS BY 2-DIETHYLAMINOETHYL 2,2-DIPHENYLVALERATE HCL (SKF-525A). 109030 13-03
- 2-DIMETHYLAMINOETHANOL**  
STUDIES OF THE SPONTANEOUS MOVEMENT OF ANIMALS BY THE HOLE CROSS TEST; EFFECT OF 2-DIMETHYLAMINOETHANOL AND ITS ACYL ESTERS ON THE CENTRAL NERVOUS SYSTEM. 120930 13-03
- 2-DIMETHYLAMINOETHYL**  
PHARMACOLOGICAL STUDIES OF 5-METHYL-8-ETHYL-SULFONYL-10-(2-DIMETHYLAMINOETHYL) 5H DIBENZODIAZEPINEONE (SM-307), AN ANTIDEPRESSANT SUBSTANCE. 098303 13-03
- 2-DIPHENYLVALERATE**  
THE DELAY OF THE BEHAVIORAL EFFECTS OF DELTA9-TETRAHYDROCANNABINOL IN RATS BY 2-DIETHYLAMINOETHYL 2,2-DIPHENYLVALERATE HCL (SKF-525A). 109030 13-03
- 2-THIOQUINAZOLIN-4-ONES**  
SYNTHESIS AND ANTICONVULSANT ACTIVITY OF SUBSTITUTED 2-THIOQUINAZOLIN-4-ONES I. PRELIMINARY STUDIES. 080630 13-02
- 3-ETHYLAMINE**  
BIOCHEMICAL STUDIES OF CEREBRAL SUBFRACTIONS AFTER CHRONIC ADMINISTRATION OF PYRIDAZINE (N MORPHOLINE 3-ETHYLAMINE 4-PHENYL 6-PYRIDAZINE HYDROCHLORIDE, AG-620). 102694 13-03
- 3-METHYLAMINOPROPYL**  
ASPECTS OF THE GASTRIC ACID ANTISECRETORY ACTIVITY OF 3,3-DIMETHYL-1-(3-METHYLAMINOPROPYL)-1-PHENYLPHTHALAN: A BLOCKER OF NOREPINEPHRINE UPTAKE. 106526 13-03
- 3H-CATECHOLAMINES**  
CHANGES IN THE FORMATION OF 3H-CATECHOLAMINES FROM 3H-DOPA AND 3H-TYROSINE INDUCED BY UNLABELLED DOPA. 103313 13-03
- 3H-DOPA**  
CHANGES IN THE FORMATION OF 3H-CATECHOLAMINES FROM 3H-DOPA AND 3H-TYROSINE INDUCED BY UNLABELLED DOPA. 103313 13-03
- 3H-DOPAMINE**  
THE RELEASE OF 3H-DOPAMINE FROM CAT BRAIN FOLLOWING ELECTRICAL STIMULATION OF THE SUBSTANTIA-NIGRA AND CAUDATE NUCLEUS. 107046 13-03
- 3H-HISTAMINE**  
CATABOLISM OF 3H-HISTAMINE IN THE RAT BRAIN AFTER INTRACISTERNAL ADMINISTRATION. 107194 13-03
- 3H-NOREPINEPHRINE**  
COMPARATIVE EFFECTS OF P-CHLORDAMPHETAMINE AND AMPHETAMINE ON METABOLISM AND IN VIVO RELEASE OF 3H-NOREPINEPHRINE IN THE HYPOTHALAMUS. 086814 13-03
- 3H-TYROSINE**  
CHANGES IN THE FORMATION OF 3H-CATECHOLAMINES FROM 3H-DOPA AND 3H-TYROSINE INDUCED BY UNLABELLED DOPA. 103513 13-03
- 3H-1-NOREPINEPHRINE**  
CHANGES IN THE RETENTION AND METABOLISM OF 3H-1-NOREPINEPHRINE IN RAT BRAIN IN VIVO AFTER 6-HYDROXYDOPAMINE PRETREATMENT. 082721 13-03
- 3H-7-HYDROXYCHLORPROMAZINE**  
CHLORPROMAZINE METABOLISM IN SHEEP. II. IN VITRO METABOLISM AND PREPARATION OF 3H-7-HYDROXYCHLORPROMAZINE. 121258 13-03
- 34276-BA**  
BLOCKADE OF NORADRENALINE UPTAKE BY 34276-BA, A NEW ANTIDEPRESSANT DRUG. 102696 13-03
- 4-BROMOPYRAZOLE**  
COMPARISON OF PYRAZOLE AND 4-BROMOPYRAZOLE AS INHIBITORS OF ALCOHOL DEHYDROGENASES: THEIR POTENCY, TOXICITY AND DURATION OF ACTION IN MICE. 094253 13-05
- 4-CHLORINATED**  
A COMPARATIVE STUDY OF THE THERAPEUTIC EFFECTS OF SOME 4-CHLORINATED AMPHETAMINE DERIVATIVES IN DEPRESSIVE PATIENTS. 103955 13-13
- 4-HYDROXYBUTYRIC**  
SOME EFFECTS OF 4-HYDROXYBUTYRIC ACID ON BRAIN CARBOHYDRATE METABOLISM. 115043 13-03
- 4-METHYL-1-PIPERAZINYL**  
RESULTS OF A DOUBLE-BLIND EXPERIMENT WITH HF-1954 (8-CHLORO-11-(4-METHYL-1-PIPERAZINYL) 5H DIBENZODIAZEPINE) COMPARED WITH LEVOMEPRIMAZINE. 099032 13-08
- 4-PHENYL**  
BIOCHEMICAL STUDIES OF CEREBRAL SUBFRACTIONS AFTER CHRONIC ADMINISTRATION OF PYRIDAZINE (N MORPHOLINE 3-ETHYLAMINE 4-PHENYL 6-PYRIDAZINE HYDROCHLORIDE, AG-620). 102694 13-03
- 4306CB**  
RELAXATION TRANSFER IN ELECTRODERMAL ACTIVITY AS AFFECTED BY A NEW MINOR TRANQUILIZER (4306CB). 105006 13-14
- 5-HIAA**  
EFFECTS OF ALPHA-METHYLTYROSINE ON THE CEREBROSPINAL FLUID CONTENT OF HVA AND 5-HIAA IN MAN. 104570 13-13
- ON THE DECREASE IN CONCENTRATION OF 5-HIAA IN RAT BRAIN BY**  
IMIPRAMINE AND RELATED SUBSTANCES. 123264 13-03
- 5-HT**  
STUDIES IN VIVO ON THE RELATIONSHIP BETWEEN BRAIN TRYPTOPHAN, BRAIN 5-HT SYNTHESIS AND HYPERACTIVITY IN RATS TREATED WITH A MONOAMINE OXIDASE INHIBITOR AND L-TRYPTOPHAN. 087124 13-03

## Subject Index

- EFFECT OF ELECTROSHOCK ON 5-HT METABOLISM IN RAT BRAIN.  
104140 13-03
- EFFECTS OF SEROTONIN (5-HT) AND SOME RELATED INDOLE COMPOUNDS  
IN A MAMMALIAN SYMPATHETIC GANGLION.  
125596 13-03
- 5-HTP**
- 5-HYDROXYTRYPTOPHAN (5-HTP) IN DOWNS SYNDROME.  
086993 13-11
- EFFECTS OF 5-HTP ON SLEEP IN MONGOL CHILDREN: PRELIMINARY  
RESULTS.  
098880 13-14
- THE TOXICITY OF TWO MAO INHIBITORS COMBINED WITH 5-HTP OR L-  
DOPA IN ANESTHETIZED MICE.  
103314 13-05
- 5-HYDROXYINDOLEACETIC**
- EFFECTS OF THIOPROPERAZINE ON THE URINARY EXCRETION AND  
CONCENTRATION IN THE CEREBROSPINAL FLUID OF 5-  
HYDROXYINDOLEACETIC ACID IN THE CHRONIC SCHIZOPHRENIC.  
074835 13-13
- REGIONAL AND SUBCELLULAR CHANGES IN THE CONCENTRATION OF 5-  
HYDROXYTRYPTAMINE AND 5-HYDROXYINDOLEACETIC ACID IN THE  
RAT BRAIN CAUSED BY HYDROCORTISONE, DL-ALPHA-  
METHYLTRYPTOPHAN, L-KYNURENINE AND IMMOBILIZATION.  
104538 13-03
- THE EFFECT OF PETHIDINE ON THE 5-HYDROXYTRYPTAMINE AND 5-  
HYDROXYINDOLEACETIC ACID CONTENT OF THE MOUSE BRAIN.  
106847 13-03
- 5-HYDROXYINDOLES**
- EFFECT OF N,N-DIMETHYLTRYPTAMINE AND D-LYSERGIC ACID  
DIETHYLAMIDE ON THE RELEASE OF 5-HYDROXYINDOLES IN RAT  
FOREBRAIN.  
095366 13-03
- 5-HYDROXYLASE**
- TRYPTOPHAN 5-HYDROXYLASE: APPROXIMATION OF HALF-LIFE AND  
AXONAL FLOW RATE (UNPUBLISHED PAPER).  
092508 13-03
- 5-HYDROXYTRYPTAMINE**
- LITHIUM INDUCED INHIBITION OF THE 5-HYDROXYTRYPTAMINE UPTAKE  
IN VITRO BY RAT THROMBOCYTES.  
123280 13-03
- 5-HYDROXYTRYPTAMINE**
- HALLUCINOGENS AND NONHALLUCINOGENS: A COMPARISON OF THE  
EFFECTS ON 5-HYDROXYTRYPTAMINE AND NORADRENALINE.  
077892 13-03
- THE EFFECT OF METHAMPHETAMINE ON THE NOREPINEPHRINE AND 5-  
HYDROXYTRYPTAMINE CONTENTS IN ELEVEN RAT BRAIN REGIONS.  
080632 13-03
- LABORATORY PREDICTIONS OF INFANTILE AUTISM BASED ON 5-  
HYDROXYTRYPTAMINE EFFLUX FROM BLOOD PLATELETS AND THEIR  
CORRELATION WITH THE RIMLAND E-2 SCORE.  
082634 13-13
- MECHANISM OF THE ANTAGONISM BY 5-HYDROXYTRYPTAMINE OF THE  
TOXICITY DUE TO CERTAIN CHOLINERGIC BLOCKING AGENTS.  
086898 13-03
- THE EFFECT OF DRUGS UPON THE UPTAKE OF 5-HYDROXYTRYPTAMINE  
AND METAMINOL BY HUMAN PLATELETS.  
087116 13-03
- EFFECT OF ACUTE AND CHRONIC ADMINISTRATION OF ETHANOL ON THE  
5-HYDROXYTRYPTAMINE TURNOVER AND TRYPTOPHAN HYDROXYLASE  
ACTIVITY OF THE MOUSE BRAIN.  
088284 13-03
- SPECIFICITY OF ACTION OF 6-HYDROXYDOPAMINE IN PERIPHERAL CAT  
TISSUES: DEPLETION OF NORADRENALINE WITHOUT DEPLETION OF 5-  
HYDROXYTRYPTAMINE.  
088486 13-03
- LSD: ITS EFFECTS UPON 5-HYDROXYTRYPTAMINE IN EMBRYONIC  
DEVELOPMENT OF XENOPUS-LAEVIS.  
098919 13-12
- REGIONAL AND SUBCELLULAR CHANGES IN THE CONCENTRATION OF 5-  
HYDROXYTRYPTAMINE AND 5-HYDROXYINDOLEACETIC ACID IN THE  
RAT BRAIN CAUSED BY HYDROCORTISONE, DL-ALPHA-  
METHYLTRYPTOPHAN, L-KYNURENINE AND IMMOBILIZATION.  
104538 13-03
- ENDOGENOUS DEPRESSIONS WITH AND WITHOUT DISTURBANCES IN THE  
5-HYDROXYTRYPTAMINE METABOLISM: A BIOCHEMICAL  
CLASSIFICATION  
104832 13-13
- EFFECT OF DIMETHYL AND MONOMETHYL TRICYCLIC ANTIDEPRESSANTS  
ON CENTRAL 5-HYDROXYTRYPTAMINE PROCESSES IN THE FROG.  
106426 13-03
- THE EFFECT OF PETHIDINE ON THE 5-HYDROXYTRYPTAMINE AND 5-  
HYDROXYINDOLEACETIC ACID CONTENT OF THE MOUSE BRAIN.  
106847 13-03
- MIANSERIN HYDROCHLORIDE: PERIPHERAL AND CENTRAL EFFECTS IN  
RELATION TO ANTAGONISM AGAINST 5-HYDROXYTRYPTAMINE AND  
TRYPTAMINE.  
107160 13-03

## Psychopharmacology Abstracts

- THE EFFECT OF IMIPRAMINE-LIKE DRUGS AND ANTIHISTAMINE DRUGS  
ON UPTAKE MECHANISMS IN THE CENTRAL NORADRENALINE AND 5-  
HYDROXYTRYPTAMINE NEURONS.  
107961 13-03
- A RAPID, SIMPLIFIED PROCEDURE FOR SIMULTANEOUS ASSAY OF  
NOREPINEPHRINE, DOPAMINE, AND 5-HYDROXYTRYPTAMINE FROM  
DISCRETE BRAIN AREAS.  
117510 13-06
- STRUCTURE-ACTIVITY STUDIES ON A 5-HYDROXYTRYPTAMINE RECEPTOR  
OF HELIX-ASPERA NEVRONES.  
120408 13-03
- ACTION OF IMIPRAMINE ON 5-HYDROXYTRYPTAMINERGIC  
TRANSMISSION AND ON 5-HYDROXYTRYPTAMINE UPTAKE IN THE  
SNAIL (HELIX-POMATIA) BRAIN.  
120411 13-03
- 5-HYDROXYTRYPTAMINE-LIKE**
- SOME 5-HYDROXYTRYPTAMINE-LIKE ACTIONS OF FENFLURAMINE: A  
COMPARISON WITH D-AMPHETAMINE AND DIETHYLPROPRION.  
105413 13-04
- ALPHA-METHYLTRYPTOPHAN INCREASES 5-HYDROXYTRYPTAMINE-LIKE  
MATERIAL IN RAT BRAIN.  
106909 13-03
- 5-HYDROXYTRYPTAMINERGIC**
- ACTION OF IMIPRAMINE ON 5-HYDROXYTRYPTAMINERGIC  
TRANSMISSION AND ON 5-HYDROXYTRYPTAMINE UPTAKE IN THE  
SNAIL (HELIX-POMATIA) BRAIN.  
120411 13-03
- 5-HYDROXYTRYPTOPHAN**
- 5-HYDROXYTRYPTOPHAN (5-HTP) IN DOWNS SYNDROME.  
086993 13-11
- THE EFFECT OF 5-HYDROXYTRYPTOPHAN AND RESERPINE  
ADMINISTRATION ON THE LEVEL OF SODIUM, POTASSIUM, CALCIUM,  
MAGNESIUM AND CHLORIDE IN FIVE DISCRETE AREAS OF THE RABBIT  
BRAIN.  
088665 13-03
- EFFECTS OF 5-HYDROXYTRYPTOPHAN ON THE SLEEP OF NORMAL HUMAN  
SUBJECTS.  
098149 13-14
- 5-iodouracil**
- EFFECT OF 5-iodouracil AND 2,6 DIAMINOPURINE ON PASSIVE  
AVOIDANCE TASK.  
104810 13-04
- 6-AMINONICOTINAMIDE**
- THE INFLUENCE OF ADRENERGIC RECEPTOR BLOCKING AGENTS,  
AMPHETAMINE, AND 6-AMINONICOTINAMIDE ON  
THERMOREGULATION.  
119553 13-03
- 6-HYDROXYDOPAMINE**
- CHANGES IN THE RETENTION AND METABOLISM OF 3H-1-  
NOREPINEPHRINE IN RAT BRAIN IN VIVO AFTER 6-HYDROXYDOPAMINE  
PRETREATMENT.  
082721 13-03
- THE EFFECTS OF PERIPHERALLY ADMINISTERED 6-HYDROXYDOPAMINE  
ON RAT BRAIN MONAMINE TURNOVER.  
086810 13-03
- SPECIFICITY OF ACTION OF 6-HYDROXYDOPAMINE IN PERIPHERAL CAT  
TISSUES: DEPLETION OF NORADRENALINE WITHOUT DEPLETION OF 5-  
HYDROXYTRYPTAMINE.  
088486 13-03
- POSSIBLE ETIOLOGY OF SCHIZOPHRENIA: PROGRESSIVE DAMAGE TO THE  
NORADRENERGIC REWARD SYSTEM BY 6-HYDROXYDOPAMINE.  
088491 13-04
- DEPLETION OF BRAIN NORADRENALINE AND DOPAMINE BY 6-  
HYDROXYDOPAMINE.  
088706 13-03
- EFFECT OF 6-HYDROXYDOPAMINE ON RAT HEART NORADRENALINE.  
104172 13-03
- EFFECT OF 6-HYDROXYDOPAMINE ON ELECTRICAL SELF-STIMULATION OF  
THE BRAIN.  
104539 13-04
- CENTRAL EFFECTS OF 6-HYDROXYDOPAMINE.  
105342 13-04
- DRUG-INDUCED DYSKINESIA IN MONKEYS: A PHARMACOLOGIC MODEL  
EMPLOYING 6-HYDROXYDOPAMINE. (UNPUBLISHED PAPER).  
105426 13-03
- FACILITATED AGGRESSION IN THE RAT FOLLOWING 6-  
HYDROXYDOPAMINE ADMINISTRATION. (UNPUBLISHED PAPER).  
106070 13-04
- EFFECT OF 6-HYDROXYDOPAMINE ON THE INCORPORATION OF 14C-  
LEUCINE INTO RAT BRAIN PROTEIN.  
108615 13-03
- EFFECTS OF 6-HYDROXYDOPAMINE ON SLEEP IN THE RAT.  
114514 13-04
- 6-HYDROXYTRYPTAMINE**
- THE DISPOSITION AND METABOLISM OF TRYPTAMINE AND THE IN VIVO  
FORMATION OF 6-HYDROXYTRYPTAMINE IN THE RABBIT.  
082786 13-03

**6-PYRIDAZINE**

BIOCHEMICAL STUDIES OF CEREBRAL SUBFRACTIONS AFTER CHRONIC  
ADMINISTRATION OF PYRIDAZINE (N MORPHOLINE 3-ETHYLAMINE 4-  
PHENYL 6-PYRIDAZINE HYDROCHLORIDE, AG-620).

102694 13-03

**7-HYDROXY-NOR1-**

SYNTHESIS OF POSSIBLE METABOLITES OF CHLORPROMAZINE; IV. 7-  
HYDROXY-NOR1- AND NOR2-CHLORPROMAZINE SULFOXIDE.

094791 13-01

**7-HYDROXYFLUPHENAZINE**

IDENTIFICATION OF 7-HYDROXYFLUPHENAZINE AS MAJOR METABOLITE  
OF FLUPHENAZINE-14C IN THE DOG.

086579 13-03

**8-CHLORO-6-PHENYL-4H-5-TRIAZOLOBENZODIAZEPINE**

PHARMACOLOGICAL STUDIES ON NEW POTENT CENTRAL DEPRESSANTS,  
8-CHLORO-6-PHENYL-4H-5-TRIAZOLOBENZODIAZEPINE (D-407A) AND  
ITS 1 METHYL ANALOGUE (D-65MT).

105392 13-02

**8-14C-MESCALINE**

SUBCELLULAR DISTRIBUTION OF 8-14C-MESCALINE IN THE MOUSE BRAIN  
AND LIVER.

120471 13-03

**9-ETHYLADENINE**

ASSOCIATION OF CNS ACTIVE DRUGS WITH 9-ETHYLADENINE.

102101 13-17

\* U. S. GOVERNMENT PRINTING OFFICE : 1974 732-786/258



## PSYCHOPHARMACOLOGY ABSTRACTS

Questions about Clearinghouse service should be addressed to:

Psychopharmacology Abstracts  
National Clearinghouse for Mental Health Information  
Alcohol, Drug Abuse, and Mental Health Administration  
5600 Fishers Lane  
Rockville, Maryland 20852

For information on subscriptions and the purchase of single copies of the *Abstracts* (Vol. 7 onward), please refer to page ii of this issue.

DEPARTMENT OF  
HEALTH, EDUCATION, AND WELFARE  
PUBLIC HEALTH SERVICE

ALCOHOL, DRUG ABUSE, AND  
MENTAL HEALTH ADMINISTRATION  
5600 FISHERS LANE  
ROCKVILLE, MARYLAND 20852

OFFICIAL BUSINESS  
Penalty for private use, \$300

POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF H.E.W.  
HEW 389



**NOTICE OF MAILING CHANGE**

- ☐ Check here if you wish to discontinue receiving this type of publication.
- ☐ Check here if your address has changed and you wish to continue receiving this type of publication. (Be sure to furnish your complete address including zip code.)

Tear off cover with address label still affixed and send to:

Alcohol, Drug Abuse, and Mental Health Administration  
Printing and Publications Management Section  
5600 Fishers Lane (Rm. 6-105)  
Rockville, Maryland 20852

DHEW Publication No. (ADM) 74-1  
Printed 1974

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE  
PUBLIC HEALTH SERVICE

ALCOHOL, DRUG ABUSE, AND MENTAL HEALTH ADMINISTRATION

